No. 4221

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

COOLING TOWER COMPANY, INC.
(a corporation),
Appellant and Cross-Appellee,

vs.

C. F. BRAUN & COMPANY
(a corporation),
Appellee and Cross-Appellant.

Brief on Behalf of Appellee and Cross-Appellant.

CHAS. E. TOWNSEND,
Attorney and Solicitor for Defendant-Cross Appellant.

WM. A. LOFTUS,
Of Counsel.

Parker Printing Company, 346 Sansome Street, San Francisco

INDEX.

Table of Cases.

No. 4221

IN THE

United States Circuit Court of Appeals

For the Ninth Circuit

COOLING TOWER COMPANY, INC.
(a corporation),
Appellant and Cross-Appellee,

vs.

C. F. BRAUN & COMPANY
(a corporation),
Appellee and Cross-Appellant.

Brief on Behalf of Appellee and Cross-Appellant.

STATEMENT.

This case comes before your Honors on cross-appeals from a decree entered in the lower court by Hon. Judge Partridge.

These appeals concern or involve three inter-related subject-matters:

(1) Appeal of the plaintiff from that portion of the decree dismissing the bill for non-infringement of plaintiff's patent in suit No. 1,010,020, dated November 28th, 1911, issued to Barton H. Coffey, assignor of plaintiff.

(2) Appeal of the plaintiff from that portion of the decree sustaining defendant's counter-claim based on the unfair practices of the plaintiff and granting an injunction and accounting in favor of defendant and against plaintiff.

(3) Cross-appeal by defendant from that portion of the decree dismissing defendant's second cause of action for infringement of Braun patent No. 1,442,784, dated January 16th, 1923, for water cooling tower, on the ground of anticipation and lack of invention.

Except for two depositions taken on behalf of plaintiff in New York, the case was tried in open court.

If this brief is of more than ordinary length, our excuse is that the issues are of more than ordinary interest and importance to the defendant cross-appellant and the fact that there are really three appeals which have required more or less individual and separate treatment.

Both concerns, plaintiff and defendant, are manufacturers of cooling towers, although this is not the sole business of the defendant, as defendant manufactures a considerable variety of other engineering apparatus and carries on a general engineering business with its factory at Alhambra, County of Los Angeles, State of California.

The plaintiff was incorporated in 1915 (R. 87) as the successor of the Mitchell-Tappen Company,

which appears to have begun business in the manufacture and sale of Atmospheric Cooling Apparatus in the year 1911 (R. 71).

Defendant C. F. Braun & Company was organized somewhat earlier than the Mitchell-Tappen Company. Mr. Braun tells us (R. 207-209):

> "I graduated in 1907 from the Department of Mechanical Engineering at Stanford University, and immediately became engaged in my profession with a concern which I believe was called the Standard Engineering Construction Company; shortly after that they formed a separate company to handle particular mechanical lines and mechanical business, carrying on construction of power plants, and pumping plants, and the like, and I think in the latter part of 1908 my associates and I bought the company, and I became president of it; we engaged, as constructing mechanical engineers, in designing power plants, pumping plants, we built a number of municipal water works, we installed large condensing equipment, a number of large tanks, built, I think, two complete municipal water works, designed some boiler plants, electric generating stations and similar work. We purchased a large part of the machinery from Eastern connections and sold it either unerected or erected, or incorporated in these plants."

Braun states (R. 224) that the cooling tower business of defendant for the year 1922 was in excess of five hundred thousand dollars ($500,000.00).

The plaintiff took depositions under the Equity Rules of two of its officers in New York, ostensibly to show the history of plaintiff's cooling tower busi-

ness; its relations during 1914-1915 with the defendant with respect to the erection of two towers for the Shell Oil Company at Martinez; and the alleged infringement of the plaintiff's patent in suit. These depositions are of the patentee Coffey, chief engineer of the plaintiff, and Mr. Phillips, treasurer of the company.

This testimony will be found on examination to be quite unsatisfactory as proofs of any of the material issues of the case except:

(1) to accentuate the limited character of plaintiff's patent by emphasizing the patented feature of the so-called "spline" and *underneath groove* of the deck-slats of plaintiff's steel towers which splines and grooves admittedly have never been used by the defendant in its towers; and

(2) as showing the utter lack of any proper or reasonable foundation for plaintiff starting the suit in the first place.

As a matter of fact and as appears from the record as a whole, plaintiff instituted this action against defendant merely in an effort to cover its own tracks and to save its face, and after defendant had given notice, both to the plaintiff and its Los Angeles agent, that if plaintiff did not cease its unfair practices against defendant the latter would be forced to initiate action to abate further interference with its lawful business.

The immediate cause of this present litigation is

found in the following letter from counsel for defendant to Mr. N. O. Fleming, Los Angeles agent of plaintiff, dated October 19, 1922, and reading:

"October 19, 1922.
File No. 1200

Mr. N. O. Fleming,
261 S. Middleton St.,
Huntington Park, California.

Dear Sir:

Re-Cooling Towers.

On behalf of C. F. Braun & Co., of this city and of Los Angeles, this letter is addressed to you concerning certain statements purported to have been made by you to customers and prospective customers of my client.

These statements which you are reputed to have made in certain definite and specific instances known to us include, in brief:

[1] That your principal, Cooling Tower Company, was investigating the activities of C. F. Braun & Co. in the Cooling Tower Company's business and expected to sue C. F. Braun & Co. shortly for infringement of the Cooling Tower Company's patents.

[2] That C. F. Braun & Co. were at one time agents of the Cooling Tower Company.

[3] That C. F. Braun & Co. stole the Cooling Tower Company's design.

[4] That C. F. Braun & Co.'s Towers were copies of said designs.

[5] That you could not see how the Cooling Tower Company could possibly lose such a suit.

The foregoing information in our hands comes from sources believed to be entirely reliable.

For your information and guidance I beg to say, on behalf of C. F. Braun & Co.:

[1] Concerning item 1, if you are speaking on behalf of the Cooling Tower Company it would seem obvious that the Cooling Tower Company has not taken occasion to enlighten you as to certain correspondence passing some four years ago between the Cooling Tower Company and myself and the Cooling Tower Company's attorneys in New York and myself on the subject: and for your information I am enclosing herewith copies of such correspondence, to-wit:

[1] Copy of my letter to the Cooling Tower Company, dated July 18th, 1918;

[2] Copy of letter from Ashley, Foulds & Galland, attorneys for the Cooling Tower Company, dated July 30th, 1918; and

[3] Copy of my reply to them dated August 28th, 1918.

The correspondence ended with the latter letter and as far as I know the misrepresentations of the Cooling Tower Company practically ceased at the same time until recently renewed by your pernicious activities, as above pointed out.

[2] Your charge embraced in item 2 above that C. F. Braun & Co. were at any time agents of the Cooling Tower Company, you may see for yourself is utterly false and unfounded. Furthermore, neither Mr. Braun nor C. F. Braun & Co. were at any time agents for either the Cooling Tower Company or any predecessors or subsidiaries.

Likewise, false are the more scandalous statements that C. F. Braun & Co. had ever 'stolen' or 'copied' any designs of the Cooling Tower Company.

Under the circumstances your statements, whether made in good faith or not, constitute a gross slander on the legitimate business of C. F. Braun & Co. They have resulted, as you know, of the alienation of some of C. F. Braun & Co.'s old customers and in several lost sales of late.

Mr. Braun has borne these misstatements of yours patiently for some time, feeling that in the end they would react more upon you and your Company that they would on his Company, but in view of their persistent repetition, and made with such total [dis]regard for truth and fair dealing, Mr. Braun has authorized me, in the absence of an immediate and complete retraction in writing, to institute suit forthwith against you personally and against the Cooling Tower Company for defamation of character, slander of business and unfair competition.

A satisfactory reply is, therefore, awaited from you within five days from the date of the receipt of this letter; in the absence of which it will be assumed that your statements attributed to you have been made recklessly, maliciously and in bad faith and suit will be instituted, coupled with a motion for a preliminary injunction and damages.

Yours very truly,
(Signed) Chas. E. Townsend,
Attorney for C. F. Braun & Co.

CET:C
Encls."

[The inclosures referred to appear in the defendant's answer and counterclaim, R. 18 to 30 inc. and as exhibits in this case. The plaintiff's Reply to the Counterclaim is unique in admitting the facts on which the charges of unfair dealing, laches

and estoppel have been based, but deny their legal effect.]

The above letter of October 19th, 1922, was acknowledged by Frederick W. Lake, as attorney for Fleming, under date of October 23rd, 1922, as follows:

> " 'Mr. N. O. Fleming has consulted me with reference to the matter set forth in your communication of October 19, 1922, relative to the controversy that has arisen in connection with the construction of certain cooling towers. Inasmuch as the Cooling Tower Company, of New York City, would be the principal defendant in interest in any litigation instituted on behalf of your client, and inasmuch as all patents, files and other data are in the immediate possession of that corporation, I have advised Mr. Fleming to forward your communication, with the correspondence enclosed therein, to the Cooling Tower Company, at New York, for attention and reply.
>
> " 'I believe I can assure you that the matter will be given immediate attention, and that you will hear from the corporation in due course. Inasmuch as the corporation will be unable to receive and reply to your communication within the five-day period required by you, however, I request that any litigation at the instance of your client be delayed until the corporation has had a reasonable opportunity to take the matter up with you.' "

Within a month the bill was filed. Defendant thereupon answered, and also counter-claimed on two causes of action:

(1) For unfair trade;

(2) For infringement of two patents issued to the defendant Braun as follows:

1,334,515—March 23, 1920, and

1,442,784—January 16, 1923, both for cooling towers.

Later the first Braun patent was withdrawn without prejudice as there was no reliable evidence of any infringement (R. 264-265).

Authority for defendant's counterclaims is found in:

Equity Rule 30;

American Mills Co. v. Amer. Surety Co., 260 U. S. 360; 67 L. Ed. 306;

Marconi v. National, 206 Fed. 295, 300.

In the *American Mills Co.* case, Chief Justice Taft said:

> "The counterclaim and the set-off and counterclaim in the two clauses are in *pari materia* except that the first grows out of the subject-matter of the bill and the other does not. That which grows out of the subject-matter of the bill must be set up in the interest of an end of litigation. That which does not may be set up, if the defendant wishes, in one proceeding in equity quickly to settle all equitable issues capable of trial between them in issues capable of trial between them in such a proceeding, even though they are not related."

> "Plaintiff having brought a suit in this district thereby subjected itself to any counterclaim or set-off which is fairly within the

Equity Rule above quoted." *(United States Expansion Bolt Co. v. H. G. Kroncke H. Co.,* 216 Fed. 186, 189)

"It seems to be well settled that, as stated by the court in General Electric Co. v. Wagner Electric Manufacturing Co. (C. C.), 123 Fed. 101:

" 'The limitation as to the district of residence of defendant, or of place of business and acts of infringement, relates merely to the place of suit, and may be waived.' General Electric Co. v. Wagner Electric Manufacturing Co., supra; United States Consolidated Seeded Raisin Co. v. Phoenix Raisin Seeding & Packing Co. (C. C.), 124 Fed. 234; Thomsen-Houston Electric Co. v. Electrose Manufacturing Co. (C. C.), 155 Fed. 543; United States Expansion Bolt Co. v. H. G. Kroncke Hardware Co., 234 Fed. 868, 148 C. C. A. 466."

The *Marconi* case is authority for the charge of infringement based on the 2nd Braun patent; the Court there having said:

"* * * the rule would seem to require and direct the union of various litigations existing in equity up to the time of pleading, or, by amendment, *up to the time of trial,* between the parties to the litigation." (Italics ours.)

Before specifying defendant's assignment of errors it is appropriate, briefly, to outline some aspects of the cooling tower problems particularly as presented to the defendant's engineers, as well as refer to the previous relationship of the parties.

SUBJECT MATTER: COOLING TOWERS.

The controversy relates to what is known in the trade as "Cooling Towers".

A cooling tower is a comparatively high, open work structure with means for conveying water to be cooled to the top of the structure and then distributing it at the top and allowing it to fall through a considerable space, with various interruptions to break the water into a spray; being cooled by giving up its heat as it falls.

To prevent the spray blowing away or drifting too much to one side or one end of the tower, and still allow for circulation of air, means are provided completely surrounding the tower in the form of so-called "louvers" or spaced inclined windshields or ventilators. After cooling it may be re-used.

Of course, neither plaintiff nor defendant was the originator of cooling towers, as will be seen by even a casual reference to the prior art, and as will be more particularly pointed out later.

RADICAL DISTINCTION BETWEEN PLAINTIFF'S AND DEFENDANT'S TOWERS.

There is this to be said at this point as to the radical distinctions between the cooling towers of the plaintiff and those of defendant:

The plaintiff's cooling tower is of *steel frame* construction with *interior criss-cross bracing;* the

latter interfering more or less with the proper down-flow and distribution in breaking up the water streams.

On the other hand, the defendant's patented cooling tower is of all-wood construction; the Braun type of tower being the first tower of any type wherein the *bracing is effected through the externally disposed louvers* or windshields, which latter heretofore, as in plaintiff's steel construction, had been hung as so much *dead-weight* (approximately 38% of the material in the tower being in the louvers, R. 372) on the outside of the tower proper.

This 38% of material entering into a tower had never been used before the Braun invention for *structural strength,* although one of the big factors in cooler designs is structural strength.

THE THEORY AND PURPOSE OF A COOLING TOWER.

Cooling water by exposing it to air after it has been heated and continually re-using it, is practiced on an increasingly large scale by all industries requiring a supply of cold water for cooling purposes.*

These industries include refrigerating plants of all character; steam power plants operating with condensers; oil refineries condensing oil vapors;

*Taken from Defendant's Bulletin No. 101, "Exhibit C", pages 7 to 18, inclusive.

plants containing large electrical transformers, internal combustion engines, or other mechanical equipment requiring jacket water for cooling; and many manufactories whose processes require the removal of heat.

The cooling tower overcomes the difficulty of procuring a sufficient and suitable supply of cooling water, renders the selection of an industrial site independent of a large water supply and effects great economies.

Such primitive devices as open air cooling ponds, flue towers, and the appliances brought to light by home talent, have proven their inadequacy.

The principle on which the heat in water to be cooled may be transferred to the surrounding atmosphere may be illustrated by the following:

WET BULB TEMPERATURE.

If a thermometer with its bulb surrounded by a wetted piece of muslin or other material is whirled rapidly in partially dry air, the temperature indicated by the thermometer will gradually be lowered until finally a value is reached where no further decrease occurs. This is known as the wet bulb temperature. As the wetted muslin is really an elementary cooling tower, subjected to unlimited air supply for unlimited time, this wet bulb temperature represents the lowest possible temperature attainable in any type of atmospheric water cooling device.

If the water with which the muslin is wetted is at a temperature above that of the atmosphere, cooling takes place in two ways:

(1) By the heating of the air;

(2) By the evaporation of a portion of the fluid.

The first involves the transfer of sensible heat, that is, heat that raises the temperature of the air. The second involves the transfer of latent heat, the energy required for converting a portion of the water into vapor being withdrawn in the form of heat from the remaining water.

At first there will be a flow of sensible heat from the water to the air, heating the air and cooling the water, and there will be a flow of latent heat due to evaporation which will cool the water. When the temperature of the air is reached by the water the flow of sensible heat ceases, but evaporation continues and lowers the temperature of the water below that of the air. A flow of sensible heat then begins from the air to the water, cooling the air and tending to heat the water.

The wet bulb temperature is the temperature at which the outflow of latent heat from the water is exactly balanced by the inflow of sensible heat and equilibrium exists. This must not be confused with the dew point which is the temperature at which the air—correctly speaking, the space—would be saturated by the moisture actually in it.

The wet bulb temperature cannot reach the dew

point because of the flow of sensible heat from the air to the water, and corresponds to the dew point only when the atmosphere is saturated.

It will be observed from the action of the wet bulb that efficient cooling is dependent largely on the transfer of latent heat, and it is this factor that accounts for the high efficiencies attained by modern cooling towers, and permits of their cooling water to a temperature below that of the air.

In the commercial cooling tower considerations of first cost do not permit of exposing the water to unlimited amounts of air for an unlimited time, so that the wet bulb temperature is not actually attained, but is approached more or less closely depending upon the requirements of service.

THE LOAD FACTORS UPON A COOLING TOWER.

One important consideration in this theory of heat transfer is the velocity of the air passing over the water, the heat transfer increasing rapidly with increasing air velocity. In other words, the prevailing winds in any locality where a tower is placed will have a very definite effect on cooling. These winds will also have a very definite and positive effect on the strains imposed upon the tower. These stresses, due to windage, or the pressure of the wind or gale against the tower constitutes one of the two chief loads that the tower must with-

stand. The other load factor is the direct load of the mass of water constantly carried on the tower.

The importance of these features will be reverted to later.

RELATIONSHIP OF THE PARTIES.

THE SHELL OIL COMPANY'S MARTINEZ TOWERS IN 1915.

Plaintiff seeks to make capital out of a transaction some years ago when the defendant purchased two towers from the plaintiff's predecessor, Mitchell-Tappen Co., in the usual and ordinary course of business and resold them and erected them for the Shell Oil Company at Martinez, in 1915, all with the knowledge and consent of plaintiff's interests; also that a year or so later these towers were extended or enlarged by defendant but *without* using any of the patented features that enter into the plaintiff's patent in suit.

The facts in regard to this transaction are briefly these: In the fall of 1914 defendant, C. F. Braun & Co., received a letter from the Alberger Pump & Condenser Company, also manufacturers of cooling towers, that they had an inquiry from the Shell Oil Company (R. 308-310). The Alberger Company letter with the Shell Company letter attached being in evidence as defendant's Exhibit "RR."

It will be observed that this letter of the Shell Oil Company to the Alberger Company of March

29, 1915, *is a duplicate of the letter of same date sent to the Mitchell-Tappen Company,* predecessor of the plaintiff. Plaintiff's Exhibit No. 17. On receipt of this inquiry by Mr. Braun and knowing that the Alberger Company did not build the type of tower that the Shell Company wanted, Mr. Braun communicated not only with the Mitchell-Tappen Company but with other cooling tower companies, including the Stocker Company.

Mr. Braun says (R. 309-310):

> "A. I remember particularly the Stocker Company; I believe there were others; I am unable to recollect their names.
>
> * * * * * * *
>
> "A. I remember this Stocker catalog in response to my inquiry to Stocker for a cooling tower to fulfill the requirements of the specifications of the Shell Company. I received it approximately April, 1915.
>
> "Mr. TOWNSEND. I offer this catalog in evidence as Defendant Exhibit SS."

DEFENDANT FAMILIAR WITH THE ART OF COOLING TOWERS LONG BEFORE IT EVER HEARD OR KNEW OF THE PLAINTIFF.

Continuing Mr. Braun says (R. 208):

> "Among the people that we did considerable business with was the Alberger Pump & Condenser Company, which built condensers, cooling towers, centrifugal pumps, and like apparatus. We built for the Standard Oil Company a large cooling tower, which we purchased from

> the Alberger Pump & Condenser Company and erected; that was erected at Richmond."

And, again (R. 211):

> "I have been very familiar with the heat transfer problems, and I have made a specialty of heat transfer apparatus, for transferring heat from one fluid to another, and early in 1915, I presented a paper on the subject to the American Society of Mechanical Engineers, dealing particularly with heat transfer in a condenser."

Although the Braun Company and the Mitchell-Tappen Company had been in desultory correspondence in regard to cooling towers from as early as November, 1914, and although Braun had already been advised by the Alberger Pump & Condenser Company of the Shell Oil Company inquiry and Braun was active in following up this inquiry, it was not until April 21st, 1915, that the Mitchell-Tappen Company, by Coffey, advised Braun that the Mitchell-Tappen Company had also had an inquiry from the Shell Oil Company for towers.

The point that is to be noted is that it was not the plaintiff at all that first put the defendant in touch with the Shell Company business. *It was the defendant, however, who, by reason of its engineering reputation, secured the business from the Shell Oil Company and enabled the plaintiff to share in the profit of the transaction.*

It is regrettable that the plaintiff could not have recounted the transaction in its true light and not

sought to besmirch the reputation of the defendant or its president, Mr. Braun, and otherwise to make misrepresentations in regard to what was a perfectly regular business matter.

DEFENDANT NEVER AN AGENT OF PLAINTIFF.

A desperate effort was made by plaintiff to show the relationship of *agency* between the plaintiff and the Braun Company respecting the Shell Oil Company towers, but all the testimony, including the correspondence in evidence, show that these were outright sales of towers from the plaintiff direct to the defendant, and that the defendant, as erecting engineers, assembled and erected the towers for the Shell Oil Company.

Thus Braun, called as a witness for the plaintiff, says (R. 151):

> "I *purchased* two towers from them.
>
> * * * * * * *
>
> "I *purchased* two towers and parts for two towers from them, and sold those parts.
>
> * * * * * * *
>
> "A. I mean to say that *we contracted with the Shell* Company *for a cooling tower*, and *we purchased* part of that tower from Mitchell-Tappen Co., and other parts elsewhere.
>
> * * * * * * *
>
> "A. I mean that we purchased lumber for the tower locally.
>
> * * * * * * *
>
> "A. The Cooling Tower Company supplied

the drawings; it was part of our order that they should supply the drawings."
(Italics ours).

The drawings were returned to the Mitchell-Tappen Co. (R. 153):

"Q. Have you the erection drawings for this tower?
"A. No, they were returned to the Mitchell-Tappen Company.
"Q. They sent you extra copies, though, didn't they?
"A. All drawings were returned to the Mitchell-Tappen Company."

Braun testifies (R. 171):

"Mr. Foulds. Q. Prior to the time you started in this cooling tower business you were merely selling agents for others, were you not?
"A. No, *we were not agents; we were construction engineers;* we bought the products and sold them. *We were not agents.*

* * * * * * *

"Q. You were selling goods for others?
"A. *We were buying and selling.*

* * * * * * *

"A. We were designing plants, buying and selling."
(Italics are ours).

The plaintiff's witness, Phillips, admits that these towers were sold direct to C. F. Braun & Company. Thus (R. 112-113):

"XQ. 105. When was it that you sold the two Shell Oil Co. towers that you have testified about?
"A. In May, 1915.

"XQ. 106. To whom were those sold by your company?

"A. *They were sold to C. F. Braun & Co.,* that is we entered into arrangements with C. F. Braun & Co. to buy the lumber locally, and the metal parts of the tower from us in New York.

"XQ. 107. *And the Braun Co. paid you* for such portions of the towers as you furnished?

"A. Yes.

"XQ. 108. Have you the contract or letters covering the contract in regard to the purchase by Braun of those two towers?

"A. I have a telegram from the C. F. Braun & Co. dated May 10th, 1915, received by us on May 11th, constituting the order." (Italics ours.)

This telegram is in evidence as Plaintiff's Exhibit "27" being dated May 10th, 1915, and reading as follows:

"Enter our Order M one covering parts for fourteen hundred gallon tower for Shell Company including steel frame work field bolts and rivets regulating and controlling valves or other devices cast iron distributors three complete sets plans all FOB New York twenty one hundred eighty one dollars confirming order by mail please mail drawings immediately with sufficient data for constructing concrete foundations and collecting basin of concrete or wood towers located on ground quickest possible delivery requested believe we can secure order for second unit now if any inducement offered wire reduction you will make if order for second duplicate unit placed now.

C. F. Braun and Co.
"May 11 540 AM"

This order was accepted by the Mitchell-Tappen

Company, as seen by their telegram to Braun dated May 11th, 1915 (Plaintiff's Exhibit No. 28).

The following day (May 12th, 1915,) as seen by Plaintiff's Exhibit No. 29, Braun wired the Mitchell-Tappen Company that the Shell Company had *given the Braun Company an order* for two towers, with a request to change their order accordingly. This revised order was acknowledged and accepted by the Mitchell-Tappen Company by Plaintiff's Exhibit No. 30.

Under date of May 13th, 1915, the transaction was confirmed on the part of the Mitchell-Tappen Company by order letter Plaintiff's Exhibit No. 31, wherein the Mitchell-Tappen Company stated to C. F. Braun & Company:

> "We wish to compliment you for your prompt way of handling these cooling tower orders, and trust that both you and ourselves will find California a profitable place for our business."

In due course the towers were delivered to the Braun Company, paid for by the Braun Company and erected by the Braun Company for the Shell Oil Company, and in turn the Braun Company was paid by the Shell Oil Company.

Nevertheless on July 1st, 1918, the present plaintiff, disgruntled at Braun's failure to do further business with it and in an effort to injure Mr. Braun, wrote to the Union Oil Company a letter

(Plaintiff's Exhibit No. 19) in which the plaintiff said:

> "We had Mr. Braun handle for us the California end of our negotiations in connection with the first towers *we built* for the Dutch Oil interests at their Shell Company plant, at Martinez, Cal., but our experience in that case did not justify our making him our regular representative, and later, he tried to procure additional business from the same people by using our designs.
>
> We have straightened out the matter with the Dutch Oil interest, who *have become very good customers* and friends of ours, and we thought that Braun had discontinued his Prussian methods after this adventure, but the report that we received leads us to believe that in the case of your Company and one other, he has been *using his former connection with our Company to procure business for cooling towers built on our patents.*" (Italics ours.)

This, of course, was a deliberate misrepresentation on the part of plaintiff, in several particulars. As far as shown the Shell Oil Company was never a customer of the plaintiff.

We have not been able to find any justification for the statements contained in plaintiff-appellant's brief on this appeal concerning alleged license and inferences sought to be drawn therefrom. Plaintiff says in its brief (page 24):

> "Defendant constructed its first tower under license of plaintiff and thus admitted the validity of the patent.

And, again (page 32):

> "The old cooling towers which defendant erected under the license of plaintiff in 1915," * * * etc.

There was a sale. There was never a license except as the right of use and resale that an original vendor passes to the vendee. There was never at any time an admission, direct or implied, concerning the *validity* of any patent of plaintiff.

SHELL COMPANY TOWER—1916 ADDITIONS.

It appears that later, in February, 1916, the Shell Company desired to erect an addition to one of the cooling towers previously erected by C. F. Braun & Company. The Shell Company accepted the bid of the Braun Company and the addition was made.

In the construction of this addition the defendant did not use the drawings of the Mitchell-Tappen Company but made entirely new detailed drawings; the Mitchell-Tappen Company drawings having been previously returned, as above stated. There were various changes in details of design and construction, particularly in the deck construction, the elimination of the splines of the cooling tower (to which further reference will be made) and the substitution therefor of serrated metal strips which formed the subject-matter of Braun's first patent sued on in defendant's counter-claim, but which patent, as above stated, was later withdrawn.

Of course, at this late date no charge of infringement would lie on the addition that the Braun Company made to the Shell Oil Company tower in the early part of 1916, by reason of the Statute of Limitations, [U. S. R. S. Section 4921], but, as above stated, the evidence utterly disproves any infringing act by defendant, C. F. Braun & Company, in the erection of this 1916 addition. However, plaintiff later seized upon this perfectly legitimate transaction of the Braun Company to injure the lawful business of the defendant. So outrageous were the actions of the plaintiff that in 1918 the defendant, through its counsel, took the plaintiff to task and demanded a retraction of its unjust charges of piracy and the like, with the result that for a considerable period of time, plaintiff assumed a more conservative attitude and left defendant alone, although the plaintiff was at that time invited to institute suit and determine the respective rights of the parties if plaintiff genuinely thought that the defendant was an infringer or had committed any unlawful acts. (For this 1918 correspondence see defendant's answer and counter-claims, Sections XV to XXV, R. 17-35, inclusive.)

The utter lack of foundation for the charges broadcasted at that time by the plaintiff against defendant is emphasized in the depositions of the only two members of plaintiff's organization called to testify in the present suit.

Manifestly their opinions are based merely on suspicion and hearsay. Coffey says (R. 125-126):

> "XQ. 128. Did you know of the extension to these Shell Co. towers the time you wrote your letter of July 1st, 1918, to the Union Oil Co.? (Exhibit 19.)
>
> "A. I cannot be positive of this date, but my recollection is that such additions had been reported to me."

As to the complaint that the defendant had put into its Bulletin the pictures of the towers which it had erected for the Shell Oil Company, there is manifestly nothing irregular in that, since the Bulletin shows that these towers are not claimed to be Braun towers but that they simply illustrate work actually executed by the Braun Company.

There is nothing out of place in defendant's use of pictures of the Shell installation. This is explained by the witness Braun at R. 215:

> "Q. Some criticism has been indulged in by plaintiff's counsel of your use of cuts of the Shell 1915 towers in your advertising literature. Will you just tell what use you actually made of those cuts, and how you used them?
>
> "A. I remember that we published a bulletin, and that we used a photograph of the tower that we erected at Martinez; we took these photographs and made cuts of them and showed cuts on one of the pages of this bulletin. We were then operating as construction engineers; we advertised as such, and we did not advertise these towers as being patented by us, or as of our own design.

"Q. They simply were illustrative of work that you had erected?

* * * * * * *

"A. To show work that we had erected as the construction engineers.

* * * * * * *

"Q. Is that a policy that is common with erecting engineers, to point to work that they had done?

"A. I think that it is a very common policy."

THE BRAUN PATENT NO. 1,442,784.

The main controversy in this case centers around the validity of the said second Braun patent of defendant, No. 1,442,784.

There is, we believe, no question but that if the patent is valid, as we insist it is, the plaintiff infringed it in the erection of the all-wood tower for the Pasadena Ice Company.

ASSIGNMENT OF ERRORS (R. 408-409).

Defendant and cross-appellant specifies errors as follows:

That the Court erred:

(1) In dismissing the counterclaim of defendant on Braun patent No. 1,442,784;

(2) in finding that said Braun patent No. 1,442,784, does not involve novelty;

(3) in finding that said Braun patent No. 1,442,784 appeared to be anticipated;

(4) in failing to find said Braun Patent No. 1,442,784 valid and infringed;

(5) in failing to grant injunction restraining the further infringement of said Braun patent No. 1,442,784;

(6) in failing to find that the defendant-cross-appellant was entitled to accounting for damages and profits for infringement of said Braun patent No. 1,442,784.

For logical treatment and correct chronology, it appears advisable in this brief to consider the several matters with which these appeals are concerned in the following order:

(1) The plaintiff's patent in suit;

(2) The defendant's patented construction;

(a) as to non-infringement of Coffey.

(b) as to infringement by plaintiff.

(3) Unfair and inequitable conduct of plaintiff.

THE COFFEY PATENT, No. 1,010,020, DATED NOVEMBER 28, 1911.

(See Book of Exhibits—R. 80.)

The Coffey patent, like every other patent, should, of course, be studied in connection with the File Wrapper.

The Coffey patent is primarily for a steel tower, in which the steel columns carry the entire load and the structure depending for bracing and strength on arrangement of tie-rods and cross-bars which, however, are not shown in the patent, but which entered into every structure ever erected by the plaintiff, until quite recently when plaintiff adopted the all-wood tower construction of defendant, as will be later pointed out.

It is to be borne in mind at all times that the Coffey tower and the plaintiff's patented towers, except the one at the Pasadena ice plant and shown to infringe Braun, are all of the structural steel, cross-tie rods reinforcement type.

The plaintiff's cooling tower, as well as the defendant's cooling tower, is what is known as the "atmospheric type" of cooling tower as distinguished from the "forced draft" type. It is not to be understood that atmospheric cooling towers originated with the plaintiff. All plaintiff did was to improve on the *steel structure* type.

For instance, in connection with the prior art offered on behalf of defendant (R. 250 and following) there appeared to be a number of prior patents in evidence showing that the general idea of cooling water by the wind blowing through and across the tower was quite ancient. This ancient art is evidenced by the volume of fourteen patents forming defendant's Exhibit "II" (R. 253), besides the various other patents offered in evidence by defendant (R. 73).

DIFFERENCES IN PRINCIPLE BETWEEN COFFEY AND BRAUN.

While frequent reference herein is made to the fact that defendant's tower is an all-wood tower, it is to be understood, of course, that the invention of defendant, as illustrated by the Braun patent, relied on in the counter-claim, does not rely on the fact that the Braun tower is an all-wood tower as distinguished from the steel tower of the plaintiff and the prior art.

While Braun has found wood to be the most satisfactory, the Braun invention resides in the particulars previously referred to, to-wit: that is of so constructing and arranging the structural elements of the tower with the deck-supporting beams of the tower not only extended horizontally beyond the vertical posts, but so connecting them to the louvers at the top of the latter, with the louvers in turn so anchored to the tower at their inner bottom ends, that the resulting structures is a trussed structure and the deck members become what are termed "restrained beams," with the result that not only is a cheaper structure produced by Braun and a more durable one, due to the added rigidity, but the extensions of the deck members, with their louver connections, provide a style of external bracing so that the interior of the tower is practically free for cooling and water distribution purposes without interfering with the efficiency of the tower.

PLAINTIFF'S ADMISSION AS TO PRIOR ART.

Plaintiff's predecessor, by its secretary-engineer Phillips in a letter written November 27th, 1914, to defendant (Plaintiff's Exhibit No. 4), acknowledged the contribution of the prior art to their tower and emphasized their "steel construction" type of tower. Thus:

> "*Before our tower* was placed on the market, *both wooden and steel towers were in use.* Wooden towers lasted pretty well, except where *screws and nails were used for fastenings,* but due to swelling and shrinking they soon get out of level with a consequent loss in efficiency. *Steel towers maintained their level and the frame lasts,* but the pans or drip bars coming in contact with the water soon rust out and the tower is noisy. *Our tower has a steel frame* and swamp cedar drip bars.
>
> "*We have thus taken the best and most expensive parts from both the wooden and steel towers* and added to this our *patented cast iron distributing system* to which the superior efficiency of our tower is largely due. This has made our prices somewhat higher than our competitors, but additional orders from our customers have shown a policy of quality and efficiency to be correct." (Italics ours.)

ART PRIOR TO COFFEY.

Among the early patents on the subject are the following:

> *Windhausen,* No. 111,292, January 24, 1871, (defendant's Exhibit "II-1"), particularly Figs. 9 and 10.

Hanisch, No. 477,755, June 28, 1892 (defendant's Exhibit "II-2"), particularly Fig. 5, showing another arrangement of baffles and deck boards for affecting cooling.

Fischer et al. No. 649,573, May 15, 1900 (defendant's Exhibit "Y") (see particularly Fig. 6).

This latter patent (sheet 2 of the drawings of which are reproduced opposite), is important as showing the slatted deck (Fig. 6), with the slats staggered, and also splines for holding certain members (see Fig. 4). (This spline is the outstanding feature of plaintiff's patent but has never been used by defendant in any of its towers.)

Manifestly there would be no invention in Fischer in making the "splines" of his Fig. 4 *wider* so as to spread or space the adjacent grooved members.

Stocker, No. 700,990, May 27, 1902 (defendant's Exhibit "II-3").

This patent is interesting as showing a trough distribution for the water, with the trough dammed at the end to cause the overflow.

Wheeler, No. 707,042, August 12th, 1902 (defendant's Exhibit "II-4").

See particularly Fig. 2 and the statement of the inventor that the invention relates to cooling towers, especially to water cooling towers used in connection with steam plants operating with a condensing sys-

No. 649,573. Patented May 15, 1900.

G. K. FISCHER & F. KLEPETKO.

STRUCTURE FOR COOLING FEED WATER, &c.

(Application filed July 6, 1899.)

(No Model.) 2 Sheets—Sheet 2.

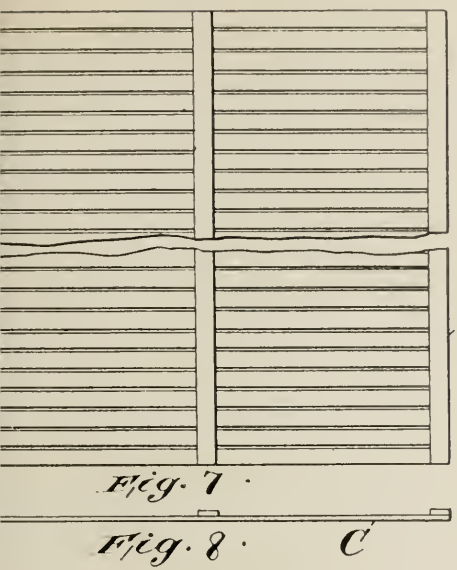


Fig. 7.

Fig. 8.

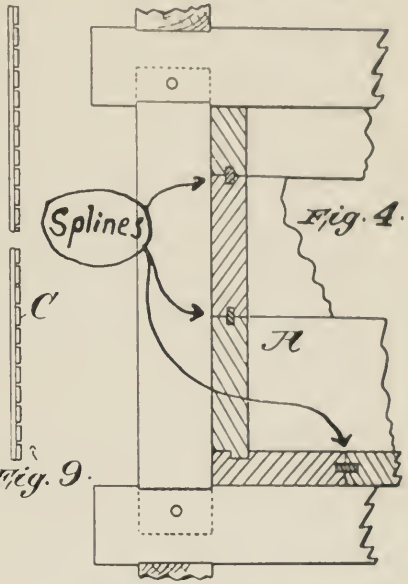


Fig. 4.

Fig. 9.

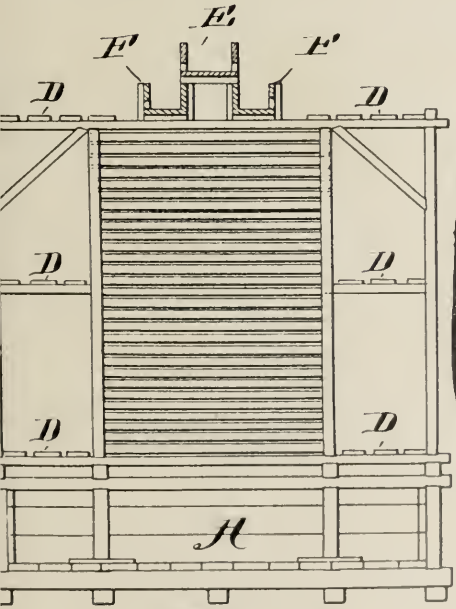


Fig. 3.

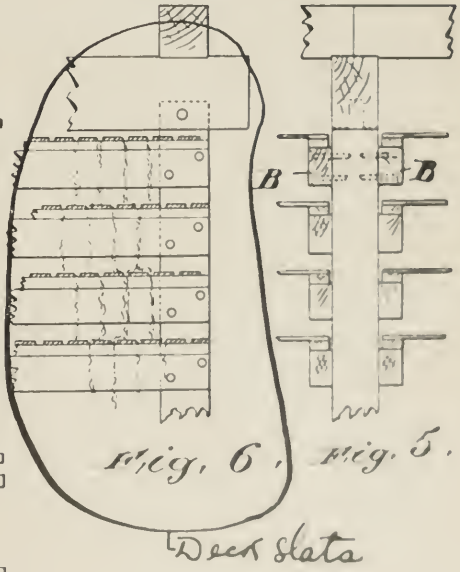


Fig. 6. Fig. 5.

Witnesses,
C. W. Benjamin
Frederick H. Dorr

Inventors
George K. Fischer and Frank Klepetko
by Munn & Co
Attorneys

tem, and more particularly to the open or non-enclosed type of this class of towers.

Ostendorff, No. 661,192, November 6th, 1900 (defendant's Exhibit "II-6").

This is also an open type of cooling tower; the patentee saying:

> "My invention is directed particularly to improvements in means for cooling water by natural aeration and evaporation caused by allowing the water to fall in fine drops or streams through the air."

Ostendorff, No. 697,160, April 8th, 1902, (defendant's Exhibit "II-7").

Ostendorff, No. 836,702, November 27th, 1906, (defendant's Exhibit "II-8").

Burhorn, No. 772,780, October 18th, 1904, (defendant's Exhibit "II-9").

In this patent the drip bar is secured at the frame ends and in Fig. 3 the *longitudinal groove on the under side.* (This longitudinal groove on the under side is one of the features emphasized in the Coffey patent in suit, but never used by the defendant.)

Burhorn, No. 961,100, June 14th, 1910, (defendant's Exhibit "II-10").

Burhorn, No. 1,014,371, January 9th, 1912, (applied for November 26th, 1910), (defendant's Exhibit "II-11").

Burhorn and Ostendorff were quite prolific inventors in this art. Both the witness Coffey and the

witness Phillips for plaintiff testify to their indebtedness to those gentlemen. Thus Mr. Phillips says (R. 88):

> "I was with Edwin Burhorn for about seven years, during all which time Edwin Burhorn was making and selling cooling towers."

And Coffey, plaintiff's engineer, says (R. 72):

> "I first came in contact with atmospheric cooling I think in 1907 or 1908 through a connection I had with Edwin Burhorn who was then beginning the exploitation of the Ostendorff atmospheric cooling tower, which was, I believe, the first serious attempt to introduce this type of tower in the United States. Ostendorff was one of the pioneer inventors of this type of apparatus."

Mr. Coffey gives the following general description of plaintiff's type of water cooling tower (R. 74-75):

> "The water to be cooled enters a distributing device at the top of the tower. This device in general forms a part of the supply pipe system. After leaving this distributing device, the water enters a deck composed of a series of gutter section wood bars, overflows these bars in an approximately uniform film which flows down the sides of the bar, turns the bottom edge and at the two grooves, is transformed into drops and this is uniformly distributed upon another deck composed of approximately flat top bars.
>
> "A splash is formed on this deck having the appearance of foam and is a very valuable cooling surface, water then drops to another flat top deck and the cycle is repeated from deck to deck until the water finally reaches a pan or basin

from which it flows to the point where it is used. While the water is thus passing from deck to deck in the form of fine drops, and spray, air passes horizontally between the decks, absorbs heat from the water and passes out on the side opposite to which it entered. The water is thus cooled progressively from deck to deck and reaches the final temperature desired in the basin referred to. This is a rough description of the cooling process common to all atmospheric cooling towers."

WOODEN DRIP BARS WERE NOT ORIGINATED BY COFFEY NOR PLAINTIFF.

Thus Coffey testifies (R. 116):

"XQ. 107. Is it not a fact that prior to your patent for the invention set forth in your patent other cooling tower manufacturers were using wooden drip bars in atmosphere cooling towers? A. Yes.

"XQ. 108. Who to your knowledge were using wooden drip bars prior to your invention?

"A. They were used in what is technically known as slat towers, working on an atmospheric principle.

"XQ. 109. By what concerns were such wooden drip bars or slats used in atmospheric cooling towers prior to the invention of your patent in suit?

"A. They were not manufactured by specialized cooling tower companies, but were erected by the owners. There are a number of examples throughout the West in the stockyards of Chicago, Cincinnati and other places."

THE COFFEY PATENT IS ILLUSTRATED BY THE MODELS—DEFENDANT'S EXHIBITS H. I and J.

In describing the Coffey construction Mr. Braun says (R. 199-200):

> "These are deck boards grooved, or the deck member, on each side, and secured at each end; and intermediate between the ends are loose splines which space these boards—spline 7 spaces the boards. The object of these splines appears to be to space the boards intermediate the place where they are fastened. These boards are fastened securely at each end to a solid member, and no provision is made for the independent expansion of any one of these boards. These splines serve solely as spacers, as this board cannot expand more than this board without moving this board. These grooves on the bottom are shown on the patent and were used on the first Martinez tower.
>
> "This is more nearly a correct model of the construction used at Martinez, Exhibit 'I.' The deck supports actually were approximately 3 feet apart instead of one foot, as shown. These boards are grooved. The boards 6 are grooved on both sides, and have splines 7; the boards are fastened down to the transverse deck-supporting members by nailing. There is no provision, therefore, for independent longitudinal expansion of these boards. The splines serve solely as spacers, providing for no longitudinal expansion, and did not secure the board to the transverse member."

COFFEY ALLEGED INVENTION.

Witness Coffey testifies that there are two features of the patent:

(1) The groove and spline system.

(2) The two grooves on the bottom of the drip bar.

Thus (R. 73-74):

"Q. 20. What are the particular advantages of the patent in suit?

"A. The particular advantages are two:

"First. The deck as made up in accordance with the patent is, with the exception of the fastening, entirely wood which experience has shown to be the most reliable material for this purpose. Second: The introduction of wood instead of metal for deck elements, however, brings in certain disadvantages. These are the warping and twisting and general tendency of wood to get out of line. The effect of this is to close up some of the spaces between the deck members and open others wide, thus impairing the distribution through the tower and so lowering its efficiency. To correct this defect, and maintain a uniform opening between the deck members, *the groove and spline system of spacing as shown in the patent was devised.* This I consider the second advantage. The third advantage is *the two grooves shown at the bottom of the drip bar,* the effect of which is to cause the water falling on each bar to divide up *into two lines of drops instead of one,* thus greatly increasing the subdivision of the water, another factor upon which the efficiency of the apparatus depends." (Italics ours.)

And, again (R. 81), he emphasizes these two features as follows:

"XQ. 49. Please make a comprehensive statement of all features of plaintiff's patent 1,010,-

020 that you find to be present in the cooling towers made by the Cooling Tower Co.?

"A. *The splines and the grooves. On the bottom of the bars.*" (Italics ours.)

This is further emphasized at (R. 82):

"XQ. 55. And what features connected with the drip bars do you consider to be the device of the patent in suit?

"A. The method of fastening and holding the bars in place.

"XQ. 56. And what is that method that is the device of the patent in suit?

"A. That device is the splines 7, Fig. 4, and pins or screws 10, Fig. 6."

Coffey says that his company has never made a cooling tower with drip bars spaced apart by any other means than the wooden splines fitting within the grooves (R. 124):

"XQ. 141. In all the cooling towers made by your company and its predecessor since your connection with it, have the drip bars been connected together or spaced apart by means of wooden splines fitting into grooves on the vertical walls of the adjacent drip bars?

"A. The best of my knowledge and belief, they have."

DEFINITION OF A SPLINE.

(R. 189-190):

"The COURT: Where does that name come from? Is that a common name?

A. A spline is a very common name for a loose piece of wood used to join together two boards, such as, for instance, floor boards. You

are doubtless familiar with the ordinary tongue-and-groove construction in which floors are usually made, one member having a groove and the other having a tongue, and this being the tongue member and this the groove, the common use for the spline is where it is desired to join together two tongued members; then a loose piece is put in there like that (illustrating).

"Mr. TOWNSEND: You might explain it as a matter of record from the Coffey patent in suit, No. 1,010,020.

"A. The Coffey patent shows that construction, the loose spline; Fig. 4, No. 7, shows such a loose spline—Fig. 7 and Fig. 8."

(R. 341):

"Mr. TOWNSEND: I want to call your Honor's attention for a moment to an authoritative definition of a spline. I have Knight's Mechanical Dictionary, and I have had a little figure, in connection with the definition, reproduced on a piece of yellow paper here, with also the definition of 'spline,' as it appears in the Standard Dictionary, and just for the convenience of the record I am going to ask that this paper be marked Defendant's Exhibit 'TT.'"

(The document was marked Defendant's Exhibit "TT.")

The definition and cut from Knight's Mechanical Dictionary is reproduced here.

Spline. (*Machinery.*) A rectangular key fitting into a seat on a shaft and occupying a groove in the hub of a wheel, which slips thereon longitudinally, but rotates therewith. A *feather.*

Fig. 5438.

Spline.

Splin'ing-ma-chine'. (*Metal-working.*) One for cutting key-seats and

FILE WRAPPER OF COFFEY PATENT IN SUIT No. 1,010,020, DATED NOVEMBER 28th, 1911 (Defendant's Exhibit "DD" (R. 252).

The following citations of the prior art appear in the File Wrapper (Defendant's Exhibit "DD"), and are in evidence as Exhibits "EE" to "HH," inclusive, and Exhibit "Y":

Cooper, 140,680, July 8, 1873;
Mills, No. 463,702, November 24, 1891;
Southwick, No. 303,334, August 12, 1884;
Andrews, No. 544,202, August 6, 1894;
Fischer, No. 649,573, May 15, 1900 (see cut, *supra.)*

By reference to the Coffey file wrapper it is seen that original claims 1, 2, 3 and 5 were rejected on these references; the Examiner saying:

> "*Fischer shows* decks in water cooling tower consisting of parallel *drip bars slightly spaced apart.*
>
> "*Southwick shows* a series of *bars spaced apart by blocks* to allow water to drip between the bars. *Andrews shows bars provided with grooves in their sides and spaced apart by splines fitting in the grooves. Cooper shows the use of splines,* for holding together a series of bars, and *Mills shows that it is old to provide spacing blocks* at intervals throughout the length of a series of bars. In view of the various uses of splines and spacing blocks, as shown in the above patents, *no invention would be involved in providing the bars of Fischer with grooves and splines at intervals along the length of the bars.*

"The description should be amended to set forth the function or advantage of the specific means for spacing the bars apart as set up in the claims." (Italics ours.)

Original claims 1 and 2 were as follows:

"1. In a device of the class described, a deck consisting of grillage bars, the adjacent bars being splined together at intervals throughout their entire length.

"2. In a device of the class described, a deck consisting of parallel drip bars with space in between the bars, short splines connecting the bars at intervals."

These drains were rejected and never allowed.

It is thus apparent that the broad idea of any spacing and securing means for drip bars were disallowed. From the cases cited it is seen that it is elementary: that the cancellation of a claim from its application after it was rejected by the Patent Office for want of novelty a patentee cannot afterwards contend that some other claim of his patent shall be construed to be co-extensive with the one rejected. See also:

Royer v. Coupe, 146 U. S. 532;
Corbin v. Eagle, 150 U. S. 40;
Scale Co. v. Automatic, 204 U. S. 609.

To obtain an allowance of the claims relating to splines it was necessary to specify (a) that "the adjacent bars separately fastened to the frame at each end" and (b) as being "loosely" splined to-

gether at intervals. These limitations appear in claims 1, 2, 3, 5 and 6 of the patent. Claim 4 calls for the specific form of the drip bar "having a *curved top, two grooves* on the *bottom* and a *groove on each of the vertical sides.*"

DEFENDANT HAS NEVER USED THE SPLINE. HAS SEPARATE PATENT ON HIS BRASS RIBBON.

Defendant does not use a "spline" in any sense of the word: Defendant's brass strap is covered by a subsequent and separate patent (Fig. 3, 1st Braun patent, Exhibit B), and therefore is not now an equivalent and could not be considered an equivalent of Coffey's *spline* in 1911 when Coffey applied for his patent. Besides Braun's *slats* are not "fastened at the ends". Braun's bars are *loose* to allow of *individual lengthwise* expansion; whereas Coffey's bars are set in a *rigid frame fastened at sides and ends* and his drip bars and frame can only expand together as a *unit.*

That the term "spline" has a very definite meaning in the art is seen by reference to the Burhorn patent, No. 1,092,334, dated April 7th, 1914 (Defendant's Exhibit "II-12"), which patent shows in Fig. 5 grooved slats with loose "splines" (numbered 29), and concerning which Burhorn says on page 2 of his patent:

> " 'And the slats being separated by splines 29 set between the slats 27, 27. In this form of

deck I preferably provide a longitudinal channel 30 in the under side of the slats 27, whereby the water will be caused to fall from the sides of the slats instead of seeking the center, thus accomplishing the desired division of the water into fine spray.' "

In offering this patent, counsel for defendant said (R. 257):

"Mr. TOWNSEND: * * * So that there will be no misunderstanding, your Honor will recall this; I only put this in for this purpose—it cannot be used for anticipation; it is used for the purpose, rather, of explaining the use of splines in this art. The patent was applied for shortly after the plaintiff's patent was issued. For some unaccountable reason which is not apparent from the face of this patent—I am curious to know whether there was any interference—maybe Mr. Foulds can enlighten us—between Coffey and Burhorn.

"Mr. FOULDS: There was none.

"Mr. TOWNSEND: It was applied for a few months after Coffey, but it shows almost the identical construction of Coffey, with the splines and the housing, and it is interesting as showing what splines meant to two men who were very closely associated about that time. I have no inference to draw or to offer, and I merely put this in on account of the peculiar verbiage that we find there."

Whether Burhorn borrowed his splines from Coffey or Coffey borrowed his splines from Burhorn is not material to this case, but the strange circumstance of the two patents describing the same

structure and using the same thing, removes, as we will see later, every vestige of any basis for the charge of infringement.

NON-INFRINGEMENT BY BRAUN.

It is not clear either from plaintiff's record or plaintiff's brief what particular tower or towers manufactured or erected by the defendant at any time are claimed to infringe; particularly it is uncertain whether the plaintiff is now claiming that the 1916 addition, erected more than six years prior to the beginning of this suit, is claimed to infringe or that the charge of infringement is directed to the patented wooden tower construction of defendant, such as it is now building.

It is quite plain that the plaintiff has failed to show any specific tower which has been erected or sold or used by the defendant which plaintiff claims infringes, much less any tower made or sold or used by this defendant within this district.

The burden of proof of infringement is upon plaintiff.

Mitchell v. Tilghman, 86 U. S. 287, 22 L. Ed. 125;

Price v. Kelly, 154 U. S. 669; 26 L. Ed. 634;

Seymour v. Osborne, 78 U. S. 516; 26 L. Ed. 33.

THE PROOFS SHOW AN UTTER LACK OF FOUNDATION FOR BRINGING SUIT AGAINST THE DEFENDANT ON THE COFFEY PATENT.

Both Coffey and Phillips, the two persons connected with the plaintiff, supposing to have knowledge of the matters set out in the bill of complaint admit a lack of knowledge of what the defendant actually did upon which the charge of infringement was manifestly based.

Thus Coffey says, R. 78, in answer to Qs. 31-32:

> "I know arrangements were made with Mr. Braun but *I did not personally carry on* negotiations, the details of which *I do not remember,* and therefore cannot answer this question in detail.
>
> * * * * * * *
>
> "The treasurer, *Mr. Phillips,* has charge of that transaction." (Italics ours.)

Phillips, while admitting he had charge of the correspondence (Q. 14, R. 89), admits that the towers so erected for the Shell Oil Company were sold to C. F. Braun & Co. by plaintiff, with the full knowledge of plaintiff (XQs. 106-107, R. 112-113).

The 1916 addition to the original Shell Oil Company tower at Martinez by the Braun Company did not embody the splines of the Coffey patent or any of the other patented features; the Braun Company employing a system of angle bars laid over the slats with the punched out bars of the angles fitting between the slats to space them (see Braun R. 203).

The securing means employed by Braun for holding down and spacing the deck on the Shell Oil Company addition is thus described by Braun (R. 203):

> "The decks were held down—an angle-iron was punched at intervals so that a part of the wall of the angle would extend down from the angle, remaining part of the angle, would project from it possibly half an inch. That angle was laid on top of the deck board and secured by nails or lag screws to the transverse deck-supporting members. The punched-down portion of the angle served as spacers for the deck."

[This construction is illustrated on the opposite page.]

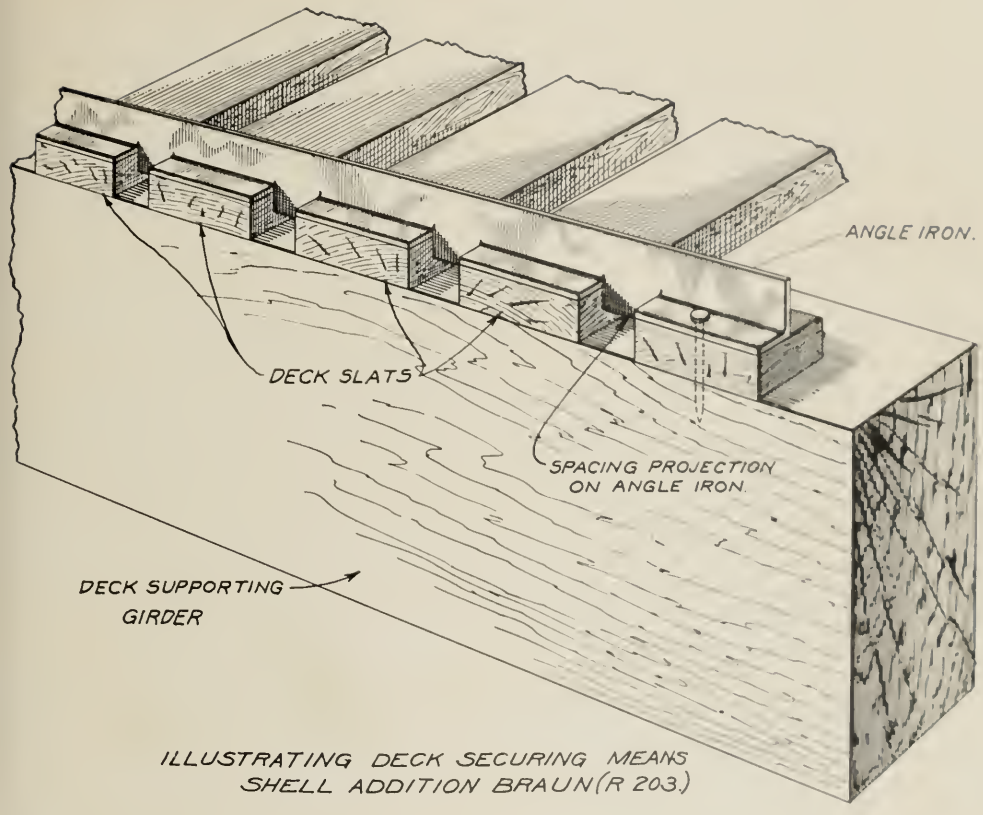
PLAINTIFF IGNORANT OF DEFENDANT'S METHODS OF DECK CONSTRUCTION.

See Coffey (R. 120):

> "XQ. 128. Have you personal knowledge of the method that was used to connect together the slats or drip bars in the two Shell Oil Co. towers erected by Braun in 1915? A. *No.*
>
> "XQ. 129. Have you personal knowledge of the method that was used in connecting the slats or drip bars of the additions or enlargement of these towers? A. *No.* (Italics ours.)

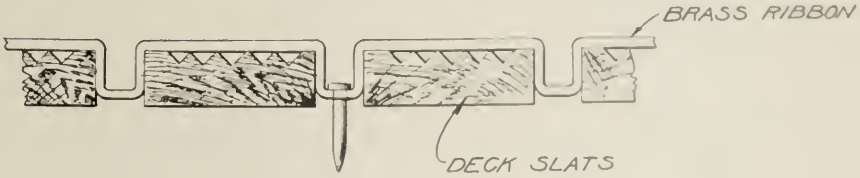
Thus Phillips on cross-examination admits his company based this misrepresentation as to what Braun did, on suspicion (R. 124-5):

> "XQ. 123. Have you knowledge of the method used by Mr. Braun in connecting and spacing the part the drip bars in the original



ILLUSTRATING DECK SECURING MEANS
SHELL ADDITION BRAUN (R 203.)

FIG. 3 OF BRAUN PAT. 1,334,515, MAY 23, 1920.



two Shell Oil Co. towers erected in 1915, material for which he purchased from your company?

A. *I have not seen the towers.* My knowledge on the subject being derived from the fact that the towers are *supposed* to be built in accordance with our plan. Instructions for erection having been sent to Braun." (Italics ours.)

This testimony recalls the admonition of the Court of Appeals in *Krupp v. Midvale,* 191 Fed. 588, 591:

> "We deem it proper, however, to say for the guidance of patent practitioners in this circuit that it should be borne in mind that *infringement is not only a question of fact,* but is a tort or wrong, the burden of establishing which, as in all torts, clearly rests on those who charge such wrong. The *absence of actual fact proof is not met by the presence of expert speculations no matter how voluminous.* In this particular case the whole superstructure of the vast mass of expert testimony, in the last analysis, depends on what the Midvale Company *did* when making armor-plate as testified to by Leonard and Ross. They were the only witnesses who saw and testified thereto, and, when the judge below became convinced that these two witnesses did not prove facts which showed infringement, he rested, and could rightfully rest, his decision on that ground." (Italics ours.)

THE SHELL OIL COMPANY TOWER ADDITION NOT AN INFRINGEMENT EVEN HAD IT BEEN DONE WITHIN THE STATUTORY PERIOD.

The loose way in which plaintiff has put in its case and its failure to make clear wherein a definite

charge of infringement lies, makes it incumbent upon defendant to discuss the Shell Company addition so that there may be no possible misconstruction put upon any of the acts of the defendant at any time.

Likewise the plaintiff's position is obscure as to what claims of the Coffey patent it is contending is or are or have been infringed. The bill of complaint in Paragraph 5 (R. 3) alleged infringement by the defendant "in the *Southern District* of California and elsewhere in the United States of America" of the claims of the patent in general, without specifying which claims.

On final hearing plaintiff limited the charge of infringement to claims 3 and 5.

In its present brief on appeal (page 14) the charge of infringement is apparently limited to claim 5, which is the only one specifically referred to and quoted.

Assuming that the charge of infringement now will include claim 3, as well as claim 5, it is to be pointed out that these claims are what is known as "combination claims" and the rule of construction of combination claims in the light of Patent Office actions is to apply.

THE CLAIM THE MEASURE OF THE MONOPOLY.

See Judge Morrow in *Bowers v. Pacific Coast Dredging & Reclamation Co.*, 99 Fed. 745, 747 (C. C. A. 9th Cir.):

"It is true that every patent is *prima facie* evidence of the novelty of the invention described in the patent, but the invention patented is the invention set forth in the claim, and that only. Keystone Bridge Co. v. Phoenix Iron Co., 95 U. S. 274, 278, 24 L. Ed. 344; Railroad Co. v. Mellon, 104 U. S. 112, 118, 26 L. Ed. 639; Manufacturing Co. v. Greenleaf, 117 U. S. 554, 559, 6 Sup. Ct. 846, 29 L. Ed. 952."

CONSTRUCTION OF CLAIMS.

"As patents are procured *ex parte,* the public is not bound by them, but the patentees are. If the office refuses to allow him all he asks, he has an appeal. But the courts have no right to enlarge a patent beyond the scope of its claim as allowed by the Patent Office, or the appellate tribunal to which contested applications are referred. When the terms of a claim in a patent are clear and distinct, as they always should be, in a suit brought upon the patent, the patentee is bound by it. Keystone v. Phoenix, 95 U. S. 274; 24 L. Ed. 344." (Macomber p. 191.)

"the patent cannot be extended beyond the claim. That bounds the patentee's right.—American v. Fiber Co. 90 U. S. 566; 23 L. Ed. 31." (Macomber p. 190.)

"An application for a patent which has been rejected, and which is subsequently amended to conform with the objections of the patent office, is strictly construed.—Norton v. Jensen, 90 Fed. 415; 33 C. C. A. 141." (Macomber p. 196.)

For other cases in this Circuit on Influence of the File Wrapper see:

Wheaton v. Norton, 70 Fed. 835;
Schultheiss Co. v. Phillips, 264 Fed. 971;
Selectasine Co. v. Prestograph, 282 Fed. 223.

COFFEY'S CLAIMS 3 and 5.

Claim 3 as a combination, analyzed, is as follows:

"3. In a device of the class described
(1) a deck
(a) consisting of drip bars
(b) securely fastened at each end,
(c) with space in between the bars;
(2) the adjacent bars being *loosely splined* together at intervals throughout their entire length." (Italics ours.)

Claim 5 is as follows:

"5. In a device of the class described
(1) a deck
(a) consisting of drip bars
(b) *individually fastened at each end,*
(c) with space in between the bars;
(2) the adjacent bars being *loosely splined* together at intervals throughout their entire length." (Italics ours.)

Walker says (Section 349):

"Omission of one element or ingredient of a combination covered by any claim of a patent, averts any charge of infringement based on that

> claim, whether or not the omitted ingredient was essential to the combination of the patent, and whether or not it was necessary to the operativeness of the device. And it makes no difference that another element is made to do the work of itself and of the omitted element. A combination is an entirety. If one of its elements is omitted, the thing claimed disappears. Every part of the combination claimed is conclusively presumed to be material to the combination, and no evidence to the contrary is admissible in any case of alleged infringement. The patentee makes all the parts of a combination material, when he claims them in combination and not separately."

The actions in the Patent Office against the Coffey claim and the insertion of the word "loosely" and other limitations are binding on the plaintiff within the doctrine of the cases referred to above; attention being particularly directed to the *Selectasine Case* decided by this Court, 282 Fed. 223.

FUNCTIONAL STATEMENTS IN A CLAIM NOT TO BE DISREGARDED.

Westinghouse v. Brake Co., 170 U. S. 537; 18 Sup. Ct. 707; 42 L. Ed. 1136, announces the doctrine:

> "But, after all, even if the patent for a machine be a pioneer, the alleged infringer must have done something more than reach the same result. He must have reached it by substantially the same or similar means, or the rule that the function of a machine cannot be pat-

ented is of no practical value. To say that the patentee of a pioneer invention for a new mechanism is entitled to every mechanical device which produces the same result is to hold, in other language, that he is entitled to patent his function."

DEFENDANT'S UNEQUIVOCAL DENIAL OF ANY USE OF EITHER SPLINES OR GROOVED SLATS CALLED FOR BY THE COFFEY PATENT.

Thus Braun (R. 212):

"Q. Referring to plaintiff's patent in suit, Mr. Braun, or to the model, Exhibit I, have you ever employed slats with underneath grooves such as shown in Fig. 2 or Fig. 3, or any of the other figures of the patent, 1,010,020, which said grooves are shown, or any grooves at all, as may appear on the under side of the slats of the model Exhibit I? A. No.

"Q. What has been the construction of your slats, as far as the underneath portion is concerned? A. Plane surface.

"The COURT. What purpose is served by these grooves on the under side?

"Mr. FOULDS. They separate the water running down. I will say when the water runs down, by capillary attraction it comes down in a solid stream, and the groove divides it into two streams.

"Mr. TOWNSEND. Q. Have you ever used side grooves such as appear in Figs. 2 and 3 of the patent in suit, or any grooves at all upon the sides of the slats? A. No."

(R. 213):

"Have you ever used in your deck construction any other construction than such as you

have described and illustrated by the models that you have referred to?

"A. Only some decks that we nailed down without any other method of spacing or securing them.

"The COURT. You mean since the time that you added this addition at the Shell Company that your installation has been practically the same as shown by your large model?

"A. Yes, with the exception of when we nailed the boards down."

Walter Hagenbuch, called for plaintiff at the trial, testified (R. 144):

"Q. When you spoke about these slats having grooves in the new Braun towers in 1920, where were those grooves?

"A. The grooves were on top of the slats.

"Q. Forming little troughs along the top of the slats? A. Yes.

"Q. There were no grooves, as far as you know, anywhere else on the slats?

"A. No, not as far as I know."

NON-INFRINGEMENT.

Our Circuit Court of Appeals in *Barley v. Witt*, 261 Fed. 77, by Judge Hunt said (p. 85):

"Notwithstanding the fact that there are the same mechanical elements present in the device of the patent in suit as in the construction of appellants, the manner of operation described in the patent claims determines whether there has been infringement; and, as we understand it, appellants do not use the manner of operation described by the patent claims."

MANY DIFFERENCES INCORPORATED IN THE ADDITION FROM THE ORIGINAL TOWERS.

As showing the difference in the addition made by Braun to the original Shell Oil Company towers Braun testifies (R. 168-169):

"Q. What enlargement did you make? How did you enlarge it?

"A. We built an addition to the tower.

"Q. You mean you lengthened it?

"A. We lengthened it.

* * * * * * *

"Q. Was the construction of this addition the same as the construction which you have already described? A. *No.*"

"A. *It differed* in the design of the main deck boards.

* * * * * * *

"A. The longitudinal deck boards, the cooling decks. *It differed* in the manner in which these decks were spaced and secured to the supporting members. *It differed* in the design of the redistributing deck; *it differed* in the design of the transverse launders at the top of the tower; *it differed* in the design of the overflow distributing troughs at the top of the tower, the primary overflow distributing troughs, and it differed in some structural details."

Braun frankly admits that this addition was made without asking the Cooling Tower Company for any license (R. 169); it being entirely outside of the patent. There was no reason why a license should have been requested.

Elsewhere Braun points out the difficulties they had with the Shell Oil Company towers, resulting

eventually in the old metal towers being torn down and scrapped and new towers entirely of wood built according to the Braun patent in suit were erected in 1920 (Braun R. 171).

Braun says (R. 218):

> "I found that the Mitchell-Tappen Co. had very inadequate or practically no facilities for manufacturing cooling towers, and I found that the structural design was very poor; I found that the distinctive features of their tower were on very limited details; and I found that a number of their details were highly impracticable.
>
> * * * * * * *
>
> "The most important of these details, as far as impracticability was concerned, was a spline. In a tower of this character, there is a large quantity of deck lumber to be installed. These boards are usually 18 feet long; they are frequently warped out of shape when they are received on the site of erection, and to endeavor to place little splines between these at short intervals between two of these long boards and to keep them there until you can secure the board in place is almost an impossible task, and at best an extremely costly process."

THE 1916 ADDITION TO THE SHELL OIL COMPANY TOWER DID NOT EMBODY ANY OF THE COFFEY PATENTED FEATURES.

Thus the testimony of Braun (R. 202-203):

> "Mr. Townsend. Q. In regard to this addition of 1916, what features, if any, employed in the original 1915 tower did you use?
>
> * * * * * * *

"A. We made the tower conform architecturally to the other tower, but we did not use the spline deck construction."

FURTHER OBJECTIONS TO THE SPLINES.

Continuing Braun says (R. 218-219):

"*The deck boards are fastened by nails or lag screws at the support.* The purpose of the spline is to space the deck boards, to space and maintain the space of the deck boards between the supports, at any point where spacing may be required. These are loose splines, and are supported by the grooves in the deck boards at any point without the need of a deck supporting member."

Plaintiff in its appeal brief says (page 3):

"It appears that the old deck was composed of slats nailed to a frame work at intervals and spaced apart so that the water might run down or fall between the slats."

Mr. Braun tells us that this "old deck" was the plaintiff's own patented deck of the 1915 Shell towers using splines and with the slats nailed down. (Testimony quoted supra and post.)

We pause at this point to call attention to the misstatement of fact so often repeated in plaintiff's and cross-appellee's brief, that if not promptly answered may lead to some confusion in the mind of the Court as to the Coffey structure.

NO LONGITUDINAL EXPANSION OF SLATS PERMITTED IN PLAINTIFF'S SHELL TOWER OR COFFEY PATENT.

Despite this evident fact, we have the repetition of error accentuated in the plaintiff's brief on appeal at pages 4, 10 and 24. Bearing in mind that Braun emphasizes the fact that the plaintiff's "deck boards are fastened by nails or lag screws at their supports" and the Coffey patent shows end supports 4 and each and every of the slats are clearly shown in the model of the Coffey deck (Exhibit H), counsel for plaintiff in his appeal brief says (page 4):

> * * * "the bars or slats are secured to the frame of the deck and spaced apart by spacers which permit longitudinal movement * * * of the individual bars or slats while maintaining the spacing between adjacent bars."

The spacers with the splines *do not* affect any securing whatever of the slats to the frame. They *do not* permit any "longitudinal movement" of the bars, but, on the other hand, being loose in the grooves of the slats, the *splines* may be moved longitudinally when impelled by some outside agency, as the workmen in assembling the tower.

Mr. Braun has said above regarding Coffey and the Mitchell-Tappen Company's Shell tower:

> "The deck boards are fastened by nails or lag screws at the support. The purpose of the spline is to space the deck boards, to space and maintain the space of the deck boards between the supports, at any point where spacing may be required."

Earlier Mr. Braun said in describing the Coffey construction Mr. Braun says (R. 199-200):

> "These are *deck boards* grooved, or the deck member, on each side, and *secured at each end;* and intermediate between the ends are loose splines which space these boards—spline 7 spaces the boards. The object of these splines appears to be to space the boards intermediate the place where they are fastened. *These boards are fastened securely at each end to a solid member,* and no *provision is made for the independent expansion of any one of these boards.* These splines serve solely as spacers, as this board cannot epand more than this board without moving this board." (Italics ours.)

Later he says, as we will see (R. 219) concerning the Coffey slats:

> "These boards are fastened to the transverse members, and secured by nails or lag screws, or similar devices. * * *
>
> "They are not secured to these transverse members by the splines;"

And at R. 220-221 Braun says:

> "They were driven through the deck boards."

At R. 237 Braun says:

> * * * "the splines do not secure the deck to any deck member."

The Coffey patent says (R. 82—Book of Exhibits lines 41-52):

> "The decks are formed of drip bars 6 which may be of any desired shape and are loosely splined together with splines 7, said

> splines being shorter than the length of the bar; on each end of these bars splines 8, longer than splines 7, connect the bars together. *The bars are each individually held to the horizontal framework 9 by screws or dowels 10,* and are not rigidly secured together. The outer members are splined together with continuous splines 11." (Italics ours.)

Nevertheless we find plaintiff urging its erroneous view upon this Court again at the bottom of page 10. Thus:

> * * * "Coffey was the first to discover and devise a means of attaching the slats or drip bars of a cooling tower deck in such a manner * * * allowing individual *longitudinal expansion.*" (Italics ours.)

Again, at pages 23 and 24:

> "A reading of the Coffey specifications and drawings discloses that Coffey desired and intended to produce a deck in which the several slats were to be permitted *individual longitudinal expansion* and his patent drawings show straps at the two short ends only."

There is not one word in the patent about "longitudinal expansion" and the frame 9, by which the slats are all enclosed and to which they are spiked, utterly disprove the contentions of counsel for plaintiff, particularly in the light of practice showing that the plaintiff's slats were nailed down at the deck supports.

The deck of the Coffey patent might as a whole expand or contract but that would be without any relation whatever to the floating splines. On top

of that, if we consider that the individual slats are always nailed down, longitudinal expansion is out of the question. It is possible that plaintiff's counsel had in mind and merely meant to say that the splines could be moved longitudinally of the slats and individually to any point in the length of the slats between the deck supports, over the deck supports, or anywhere. Such a function, of course, is not possible in defendant's slat securing and spacing means.

It is wholly erroneous for plaintiff to contend that the splines have any securing or holding down function.

It is worthy to note that plaintiff's own witnesses, Coffey and Phillips, utterly failed to support the contentions here made on appeal as the functions and operations of the splines.

FURTHER TROUBLE WITH THE SHELL JOB, BEING A TROUBLE INHERENT IN METAL TOWER CONSTRUCTION.

Braun says (R. 223-224):

> "We had a great deal of trouble with the structural steel work; the structural steel work was composed of very light members; they had been shipped and rehandled a great many times, and had been seriously damaged, and, I believe, that they came from some structural company up in New York, and were shipped to New York by rail, or possibly river steamer, transferred to a steamer for San

Francisco, and then transferred by steamer up to Martinez; the structural steel was in very bad condition when we received it. Many of the castings were broken, too.

* * * * * * *

"In the Shell tower the lumber was delivered in random lengths, it was not cut to length, and was laid on top of the 45 degree members for supporting these louvers, in a manner similar to the way a floor is laid—they were not put up in panels. The boards were joined at random points, and were nailed together. The louvers were held down against the 45° members by a loose-fitting bolt passing through a slotted hole; that is, the angular member for supporting the louver had slotted holes in it, and bolts were screwed through the louver to hold that down so it would not blow up."

NON-INFRINGEMENT OF COFFEY BY BRAUN.

THE SPLINES OF PLAINTIFF SERVE NO FUNCTION OF HOLDING DOWN THE DECK.

The "splines" of plaintiff *do not perform any securing* or holding down function, but may be drifted or moved in the grooves, as spacers for the slats, to any point *between* the deck supports. Braun's brass strips, on the other hand, *secure* the drip bars, and are *only at the supports* where they can be nailed.

"These boards are fastened to the transverse members, and secured by nails or lag screws, or similar devices.

"A. They are not secured to these trans-

verse members by the splines; *they are spaced and held in position at these supports* by the fastenings, *regardless of the splines.* In between these deck supports, which are several feet apart, Mr. Coffey apparently thought it would be necessary to provide some spacing members in between the supports."

In the Shell construction the *drip bars* were *nailed down;* the splines were placed at random merely as spacers.

Braun says (R. 220-221):

"Mr. TOWNSEND. Q. In the plaintiff's construction, put up at the Shell Company, were the nails driven directly through the deck boards?

"A. *They were driven through the deck boards.*

"Q. Did you have any complaint from the erecting force up there at the time the Shell towers were going up, in regard to the splines you have spoken of?

* * * * * * *

"We had complaints that *the installation of these small splines was a very difficult and impractical task,* and for the reason that I have explained previously in my testimony today, bearing in mind that these spaces are several feet, and the boards are possibly 12 or 18 feet long, these splines swell also, and it was very difficult to get them in and very difficult to keep them; in order that they will not fall out, they have to be made of fairly tight fit, and the result is the splines have to stand more than the board does; it is almost impossible to get them in the slots." (Italics ours.)

DIFFERENCE BETWEEN THE PATENTED SPLINES OF COFFEY AND THE BRASS SECURING STRIPS OF DEFENDANT.

Braun says (R. 221):

> "*The brass strips used by us and shown in my first patent are used only at the transverse deck-supporting members,* and are *securely fastened to them.* Their purpose is to secure the deck boards to the transverse deck-supporting members, and to allow of longitudinal expansion of the deck boards."

Defendant does not use a "spline" nor any equivalent.

Mr. Braun (R. 222) says:

> "These strips could be considered as a series of staples; for instance, the same result would be obtained approximately, if a staple were driven over the boards into the transverse supporting members.
>
> "The COURT. Do they have any effect whatever upon the lateral swell of the deck boards between the supporting members?
>
> "A. They have no effect whatever. They are not used between the supporting members.
>
> "Q. *You have no device, then, in your installation, corresponding to that wooden spline?*
>
> "A. *We have nothing whatever.* We have on the deck securing members at the deck supports. The advantage of this strip, one of the advantages of a continuous strip of this fastening over a staple would be that where a staple such as that one, for some reason, became loosened, that particular deck board might be loosened by the wind and be blown out, but *with a continuous strip, if one or more of these nails fastening the strip down became*

loosened or pulled out, the other nail in the strip will still hold that strip down, as a more or less effective member, and will prevent that board being blown away." (Italics ours.)

FURTHER DIFFERENCES BETWEEN THE "SPLINE" AND DEFENDANT'S CONSTRUCTIONS.

The differences are further emphasized by Mr. Braun on cross-examination. Thus Mr. Braun testifies (R. 237):

> *"The distinction between our member and splines is that ours is deck-securing members securing the deck to the transverse deck-supporting member; and the splines do not secure the deck to any deck member.* That is the difference between the splines and the member that we have used."

At R. 239 Braun testifies:

> "Mr. TOWNSEND. The file-wrapper has so definitely fixed that fact, that it is the best evidence of the meaning of the word 'spline' as used in the patent. They attempt to get claims which would cover any sort of spacing member, a wooden block put in there, and they were refused claims, and they were finally compelled to take the limited claims that they have got in their patent on loose spline work.
>
> "The COURT. At any rate the evidence shows now that defendant is not using any spacing member whatsoever between the supporting members."

THE TRIAL COURT RECOGNIZED THE LIMITED NOVELTY OF THE COFFEY PATENT.

As indicating the feature of novelty of plaintiff's

patent the Court says in its memorandum opinion (R. 385):

> "The patent of the plaintiff in suit has novelty only in one respect. These cooling towers consist of various decks known as 'drip decks' where the water is distributed at the top of the tower and flows down from one deck to another and passes between certain spaces between what is known as 'drip bars' or 'steps'.
>
> "The patent of the plaintiff consists of what is known as a 'spline', which is a spacing device placed between the various parts of the drip deck to keep them apart and at the same time, to take up the necessary expansion or warping due to the presence of the liquid and the passage of the air over the parts."

In short, the addition made by Braun in 1916 was simply to the original tower only in such features as were necessary to make it conform to the general type of construction and architectural appearance of the original tower. This addition was not, and the Court so held, in any sense an infringement of the patent in suit or of any patent of plaintiff ever brought to the attention of the defendant.

DEFENDANTS' PATENTS RAISE A PRESUMPTION NOT ONLY OF PATENTABLE AND, THEREFORE, SUBSTANTIAL MECHANICAL DIFFERENCE, BUT OF NON-INFRINGEMENT.

Western Well Works v. Layne & Bowler Corporation, 276 Fed. 465, 472:

"In Ransome v. Hyatt, 69 Fed. 148, 16 C.

C. A. 185, this Court held that the issuance of a letter patent was prima facie a presumption of a patentable difference between it and an earlier patent, following the decisions of the Supreme Court in Miller v. Eagle Mfg. Co., 151 U. S. 186, 208, 14 Sup. Ct. 310, 38 L. Ed. 121; Boyd v. Janesville Hay Tool Co., 158 U. S. 260, 261, 15 Sup. Ct. 837, 39 L. Ed. 973 It is also a rule of law that infringement being denied, the burden of proof is upon the plaintiff to establish the charge. Fuller v. Yentzger, 94 U. S. 299, 305, 24 L. Ed. 107; Bates v. Coe, 98 U. S. 31, 49, 25 L. Ed. 68. We start, then, with a presumption in favor of the defendants' apparatus under the Halstead patent, and against the alleged infringement, and the burden of proof upon the plaintiff to establish infringement."

Kokomo Fence Co. v. Kitselman, 189 U. S. S. 47 Law Ed. 689;

Union Match Co. v. Diamond Match Co., 162 Fed. 148, 155 (C. C. A.);

Corning v. Burden, 15 How. 252, 14 L. Ed. 683;

Boyd v. Janesville Hay Tool Co., 158 U. S. 261, 39 L. Ed. 973;

Taber v. Marceau, 87 Fed. 871 (Judge Morrow).

THE TRIAL COURT HELD NON-INFRINGEMENT BY BRAUN OF THE COFFEY PATENT.

The Court says in its opinion (R. 385-386):

"The defendant, in place of using this movable spline or piece of wood to separate these

parts of the deck, has adopted a metal strip, consisting preferably of brass or copper, which is fastened across these drip bars or integral parts of the drip deck so that they can expand not only latitudinally but longitudinally.

In my opinion there is, in the first place, grave doubt as to whether or not the spline of the plaintiff constitutes any novelty. But if it is so, it is clear that the fixed strip used by the defendant does not constitute any infringement. The injunction prayed for by the plaintiff will therefore be denied."

We submit the Court's finding in that matter was entirely correct.

DEFENDANT'S COUNTER-CLAIM ON BRAUN PATENT.

The 2nd counterclaim which we shall consider first in order, is based upon the second Braun patent No. 1,442,784, dated January 16th, 1923. Infringement is charged of the Braun patent by the manufacture of a cooling tower embracing the combinations of claims 1, 2, 5, 6, 7 and 10 of the Braun patent by the plaintiff or by those acting under plaintiff's direction for the Pasadena Ice Company, illustrated in photographs in evidence. The erection of this tower occurred before and during the period of and after the time interval between the issuance of the patent on January 16th, 1923, and the filing of the counterclaim on February 20th, 1923.

The main defense as we take it is that the Braun patent for some reason or another is not valid. We

do not believe there is any serious contention that if the patent is valid the plaintiff has infringed. Therefore, the main issue seems to revolve around the validity of the combinations of Braun, represented by the claims sued on, to-wit: 1, 2, 5, 6, 7 and 10. See (R. 49-50) Book of Exhibits.

These claims are as follows:

> "1.—A water-cooling tower comprising a main frame formed by vertical posts carrying horizontally extending frame members, said frame members projecting beyond the ends of the posts, decks adapted to be supported by the portions of the frame members occurring between the posts and inclined louvers supported by the outwardly projecting ends of said frame members.
>
> "2.—A composite water-cooling tower comprising a main frame formed by vertical posts disposed in spaced relation to each other, horizontal frame members carried by the posts and forming superposed rectangular supporting frames, said frame members intersecting each other at the posts and extending therebeyond, deck units adapted to be disposed upon the portions of the frame between the posts, and inclined louver units secured to the outwardly projecting ends of the frame members.
>
> "5.—In a cooling tower corner posts, sets of horizontal frame members adapted to intersect each other at the corners of the tower and to project therefrom, said sets of frame members being arranged throughout the height of the tower and assembled louvre sections secured between the outwardly projecting frame members at the sides and corners thereof and in diagonal inclined positions.

"6.—A cooling tower comprising an upright frame structure, a plurality of superimposed cooling decks carried thereby and outwardly and upwardly flaring louvres secured around the frame in a protective position relative to said cooling decks, said louvres comprising assembled sections adapted to be secured to the frame to form a continuous louvre structure.

"7.—A cooling tower comprising vertical frame posts, horizontal frame members supported from the posts and adapted to extend beyond the sides thereof to form a rectangular frame with overhanging ends and louvre sections supported in inclined positions between the various overhanging ends of the horizontal frame members.

"10.—A cooling tower structure comprising a plurality of sections, each formed of vertical supporting members, horizontally extending beams in superposed relation to each other and carried by the vertical members, said beams extending beyond the outermost vertical members, horizontal cooling decks carried on the beams and between the vertical members, and inclined louver panels secured by their upper and outer ends to the projecting ends of the horizontal beams and by their lower and inner ends to the horizontal beams near the vertical members."

DEFENDANT'S PATENTED ALL-WOOD TOWER.

In all towers prior to the advent of the Braun construction, whether the towers were made of wood or steel, the tower frame depended for structural bracing in every instance known on a complex system of criss-cross bracing within the tower,

often supplemented by outside props to the ground clothes line fashion.

One of the great objections to the criss-cross bracing within the tower was and is, as already pointed out by Braun and Shattuck, the valuable space taken up which might otherwise be devoted to the more efficient handling of the water within the tower; this being in addition to the greatly added weight put up on the structure itself. Since these towers often go into congested commercial districts every available foot of land must be utilized and the heights of the towers secured in volume of water handled, economy of space and enduring strength of the tower structure itself.

Prior to Braun, in order to get this desired strength, it had been common, and especially so with the plaintiff's cooling tower to build their towers of steel, employing steel shapes in the vertical and cross members with an intricate system of internal cross bracing simply using wood slats for the decks.

The louvers in the plaintiff's structure immediately prior to the infringement complained of by plaintiff were largely metal, hung directly on the outside of the tower proper, much after the fashion of a fire-escape. Everyone knows a fire-escape adds nothing to the structural stabiliy of a building. It is a necessary excrescence, and so it was in all the towers prior to the Braun structure, as we will point out when we come to consider the

Braun patent. His invention, whether in wood or metal, embodied for the first time the utilization of the relationship existing between the tower structure and the previously excrescent louver appendages in such a way that the louver was made to become an integral component of the tower itself and directly contribute, by an external simple connection with the deck supports, to utilize the principle of a truss, not only building a cheaper and more efficient tower but one of longer life and capable of resisting higher windage and greater loads than had ever been known before. This principle of the Braun patent is epitomized in the foregoing claims of the Braun patent No. 1,442,784 charged to infringe (R. 250 and R. 384).

(While frequent reference herein is made to the fact that defendant's tower is an "all-wood" tower, it is to be understood, of course, that the invention of defendant, as illustrated by the Braun patent relied on in the counter-claim, does not lie in the fact that the Braun tower is an all-wood tower as distinguished from the steel tower of the plaintiff and the prior art.)

DEFENDANT'S PATENTED TOWER SHOWN BY MODEL EXHIBIT "D."

The defendant's cooling tower, which, for brevity, will be referred to as the "Braun Cooling Tower" is illustrated by the model in evidence (Defendant's Exhibit "D"—R. 183).

Mr. Braun in a description of his tower says (R. 184-5):

"The cooling of the water in the cooling tower is accomplished by bringing about intimate contact between the water and air. In this type of tower the water is distributed by some means at the top and flows successsively from deck to deck to the basin underneath, the wind carrying the air across the tower, causing contact between the air and the water, the water emerging at the bottom cooled."

DISTRIBUTING SYSTEM.

(R. 186-187):

"Water is delivered by a pipe or other conduit into this flume at the top of the tower; at intervals along the tower are other flumes, D, smaller flumes, into which the water from the main flume is distributed, this flume carrying the water across the tower, and from this flume the water is distributed into, in this particular case, four overflow troughs, from which the water overflows and drops onto troughs that run transversely of the tower from which the water again overflows and drops onto this longitudinal cooling deck, which really extends from end to end of the tower.

* * * * * * *

"As the water drops from deck to deck and runs over the deck boards and down between them and around and off of them, the wind is blowing, generally from one direction, and the tower is usually set across the direction of the prevailing wind, so that the wind will blow across the tower; if the wind is blowing rather

briskly across the tower, the water, as it drops from deck to deck, will be briskly blown toward the lee side of the tower, so that finally, near the bottom, the water will be going down, largely down the lee side of the deck, while the windward side of the deck is dry. To overcome that difficulty, we install a redistributing deck, which consists of troughs, G; these extend transversely of the tower, dammed at each end; these troughs serve to carry the excess water across, some of the excess water going down the lee side of the tower back to the windward side of the tower, and to start the water again in the condition of fairly uniform distribution over the tower."

RE-DISTRIBUTION OF THE WATER.

(R. 187):

"The water then drops from deck to deck, down through the remaining cooling decks, and finally into the receiving basin or bond at the bottom of the tower. This redistributing deck is constructed in a manner similar to that in which the 1920 tower at the Shell Company was constructed, but not to the detail shown in my patent which was just under discussion."

BRASS RIBBONS FOR SECURING THE SLATS.

(R. 187-188-189):

"The deck F has a brass ribbon, a continuous brass ribbon, usually supplied in one piece the entire width of the tower, pressed down at intervals to provide spacing for the decks, and

to permit of fastening to the transverse members; a nail, lag, screw, or some similar device is driven through this brass strip in each of these spaces. There is a large-sized model of it.

"Mr. Townsend. The witness refers to a little model which I will ask to be marked Defendant's Exhibit 'E'.

* * * * * * *

"Returning to the distributing deck, you will note that this is a continuous board—you will note that the member I mark I is a continuous board extending across a large number of the troughs, and permanently secured to each trough by a nail; that *there are no loose members here.* You will also note that this metal strip H is a *continuous strip* usually extending across the entire width of the tower, and securely fastened by means of nails to the transverse deck-supporting member." (Italics ours.)

PURPOSE OF THE LOUVER.

(R. 185):

"The center part of the tower, as bounded by the columns, roughly, has to do with exposing this water to the air; the wind, in blowing it sometimes has a considerable tendency to carry particles of water away, and these louvers on the sides of the tower are inserted to intercept the particles of water that are being blown by the wind away from the tower and to return them to the tower.

"As the direction from which the wind may blow cannot be controlled, these louvers are installed around the entire periphery or the exterior of the tower. In this model the louvers on one side, and on one end, have been omitted,

so that the interior is accessible for view and discussion."

THE BRAUN INVENTION.

Bearing in mind the problems of a cooling tower manufacturer as already pointed out, Mr. Braun has this to say concerning the features of the Braun invention of the counter-claim patent (R. 191-192):

> "The louvers are made in panels which are fabricated in the factory, drilled, and shipped out as fabricated members in this shape which are hoisted up and bolted. These *panels* also serve *as structural members tying the entire structure together, and form a truss with the other members.*"
>
> "*In Braun these longitudinal members also extend beyond the end of the towers to receive the louvers* in a manner similar to the way the transverse deck-supporting members extend to the louvers." (Italics ours.)

BRAUN FACTORY FABRICATED KNOCK-DOWN TOWER.

Braun says (R. 195):

> "We now fabricate these at Alhambra. Alhambra is a small town lying right between Los Angeles and Pasadena. We have a large shop there in which we fabricate even these parts; they are all drilled and these panels are fabricated, all ready to be assembled. One of the features of our tower is the fact that our field labor is reduced to a minimum; field labor is labor which cannot be controlled; it is liable

to be very expensive, and also liable to result in very poor workmanship, so all of this work is done in the shop."

BRAUN'S TOWER IS THE FIRST TOWER WHEREIN THE LOUVER CONSTRUCTION SERVED ANY STRUCTURAL FUNCTION.

Thus Braun says (R. 195-196):

"In the towers that I have been familiar with, the louver construction does not serve any structural function.

* * * * * * *

"You must use a large number of internal braces of some kind or guy the tower by means of external guy rods in a manner similar to what you would guy a smokestack. The essential difference between this tower and the tower first built at Martinez is that with this tower the deck supports and louver supports are one, and the *louvers are tied firmly into these deck supports,* so that the whole forms a very rigid structure, thoroughly tied together, and all members acting in harmony. In the other tower the deck supports—

"In the first tower built at Martinez, the deck supports are not related in any way, structurally, to the louvers; they are bolted, as shown on the drawing, by one bolt, so that they apparently serve no structural function other than to just hold the decks up, support the deck portion." (Italics ours.)

On cross-examination Braun says (R. 380):

"I will state specifically that the development of the *extended beam and making use of*

the louvers for structural support was the direct outcome of our endeavoring to *reduce the number of internal bracing members,* which seriously obstruct the entry of the wind to the tower. It was specifically for that purpose." (Italics ours.)

DEVELOPMENT OF THE BRAUN INVENTION.

Mr. Braun says (R. 364):

"We observed that *most all atmospheric cooling towers which came within our experience seemed weak structurally;* we noticed this on the Shell towers at Martinez, which were, as a matter of fact, *later condemned,* and some of the parties deteriorated had to be torn down for fear they would fall down, and we built a number of towers in accordance with the drawings shown on the *first Braun patent; these towers lacked the desired stability.* In an endeavor to overcome this, we undertook the design of the existing Braun type of tower, and *extension of the deck-supporting members so as to support the louvers and form a continuous beam,* and a *triangular truss* between this horizontal beam and the vertical beam was a result of this effort to *increase the stability* of the atmospheric type of cooling tower." (Italics ours.)

"Q. When did that work begin, the design of that?

"A. That work began rather late in 1918 or early in 1919."

Braun says (R. 364-365):

"This work was started by me, assisted by Mr. Houghton, and was later taken up by Mr.

Shattuck, who had been in the service, on his return from the service. * * * Mr. Shattuck carried out the details of the design; the principles were developed prior to the time that he took the work up. * * * We built in 1919 the first towers of the new type. * * * The first tower was built very shortly after Mr. Shattuck's return, I don't exactly remember when he returned.

* * * * * * *

"I think that we began work on the fabrication of a tower of this type within about a month after he returned."

Mr. Shattuck says (R. 266):

"That construction went through *a process of development some years ago,* and I took it up on being discharged from the army, and went in on drafting work under Mr. Braun's instructions to design an improved water tower.

* * * * * * *

"Q. Had any work been done on the design of the particular form here when you returned from the army?

"A. As I remember, yes, he had done quite a little sketch work, and preliminary consultation work."

Witness Shattuck was discharged from the Army March, 1919 (R. 267). He says:

"Q. When was it you came out of the army?

"A. I was discharged in March, 1919; the armistice was 1918.

* * * * * * *

"A. I started in picking up the threads of the design work, and I followed out the details.

* * * * * * *

"As I recollect on taking up the work, we were working on a complete wooden tower, endeavoring to make all members of that tower take care of certain stresses and strains, and not be a dead load or not functioning in that respect. It was important to *do this owing to the fact that we should get a tower made of wood that would not contain large structural members which would hinder the passage or stop the flow of wind* through the tower or windage through the tower; we bore these facts in mind, also economical facts as to cutting down lumber to the minimum, and facilitating field erection, and also the length of lumber, using lengths that were most economical to purchase." (Italics ours.)

INTER-RELATION OF LOUVERS AND TOWER ELEMENTS CONTRIBUTE TO THE RESULTS FIRST ACCOMPLISHED IN THE BRAUN TOWER.

Mr. Shattuck testifies (R. 268):

"Q. Can you mention the members or elements or indicate them, which contribute in your opinion to that desired result?

"A. The *transverse members and longitudinal members supporting the deck that extended beyond the columns to hold the end of the louver*—by employing that transverse member extended beyond the column we were *able to get a very rigid structure,* and it enabled us to use the *louvers to form a truss* that braced the whole structure; *heretofore the louvers has been merely to prevent water from leaving the towers,* but had *performed no function in bracing the tower in its entirety.*" (Italics ours.)

Braun says (R. 226):

"Our tower has *greater structural strength and rigidity,* which is a very important feature in the cooling tower, which, for proper performance, *must be exposed freely to the prevailing wind.* Our tower also has a great advantage of being constructed in units. It is a manufactured tower, fabricated at a factory, shipped in units, such, for instance, as the louver panels, which are assembled and bolted together at the site of erection, at a minimum cost for field labor. The saving in field labor not only effects an economy, but it results in a better structure. A structure, the majority of the parts of which are built in a factory, which can be properly controlled, will be far better mechanically than a structure, a large portion of the work of which is done in the field, which may be at remote places, such as oil fields, and mines, or other locations where skilled labor is difficult to secure." (Italics ours.)

LOUVERS HAVE ALWAYS BEEN APPENDED TO OR HUNG ONTO A TOWER TO HOLD IT DOWN RATHER THAN REINFORCE IT.

Thus Braun says (R. 374-375-376):

"Q. In your experience, and from any of the patents or drawings in evidence, has there been any showing anywhere at any time to your knowledge where the extension of whatever sort it has been apparently designed for the purpose and intention of co-operating with the deck member, as stress or load supporting or resisting member?

"A. No. I have never seen any such struc-

ture. Apparently, *louvers have always been considered* as *an appendage* to hang onto the tower, and hold them down. The use of this material for structural purposes had never been recognized." (Italics ours.)

Continuing Braun says:

"I would like to make one more thing clear, and that is, in a cooling tower there is an additional reason for resisting the number and size of the structural members in the tower, and that is that *all structural members offer resistance to wind, and if too many structural members were used in the tower, an insufficient amount of wind would enter the tower and the water might, therefore, be not properly cooled.* This, to my mind, is a very important feature in cooling tower design, to so design the tower that there is a comparatively free passage for wind.

* * * * * * *

"We had a rather remarkable proof of the efficiency of this type of bracing in a tower which we installed for the Shell Company, the third tower which we installed for the Shell Company, on a high hill overlooking Carquinez Straits; this tower had in it some metal tie rods similar to the tie rods in Model D, and the tower was subjected to a very severe gale, and the fastenings of all these tie rods broke, apparently the fastenings were weaker than the tie rods, but *the stability of the structure was unchanged.* I presume that the breaking of the tie rod fastenings, was due to the slight flexibility in the wooden structure, but the structure was not distorted in any way, and we later replaced these fastenings." (Italics ours.)

BRAUN AND COFFEY AGAIN DISTINGUISHED.

While Braun has found wood to be the most satisfactory, the Braun invention resides in the particulars previously referred to, to-wit:

That is of so constructing and arranging the structural elements of the tower that the deck supporting beams of the tower are not only extended horizontally beyond the vertical posts but they are so connected to the louvers at the top of the latter and the louvers in turn are so anchored to the tower at their inner bottom ends that the resulting structure is a trussed structure and the deck members become what are termed, restrained beams, with the result that not only is a cheaper structure produced by Braun and a more durable one, due to the added rigidity, but the extensions of the deck members, with their louver connections, provide a style of external bracing so that the interior of the tower is practically free for cooling and water distribution purposes without interfering with the efficiency of the tower.

ADVANTAGES OF AN ALL-WOOD TOWER.

Braun says (R. 225):

"There are many advantages of an all-wood tower. One of the great advantages is durability of the tower. Towers which have steel in them will under many conditions corrode very rapidly. Cooling towers are subjected to very corro-

sive influences: the water passing over them is warm; frequently, it is highly impregnated with salt, due to concentration in the steam, and they are freely exposed to air, providing the oxidizing agent for oxidizing the steel parts. For that reason, a tower made of wood, particularly redwood, which has rot-resisting qualities, and with fastenings of some highly corrosive resistant substance, such as brass or copper, is far superior to a tower having steel members."

While wooden towers were, of course, not invented by Braun, they were of the home-made type and generally were what is known as "bird-cage towers" in which the louvers were hung upon the tower frame much after the fashion of a fire escape on a building.

Braun says (R. 225-226):

"Wood towers have been in general use for a great many years; many of them were home-made affairs, built by the customers, and sometimes were called bird-cage towers; some of them were made with lath; most of them were rather flimsy, and they were made almost entirely on the top floor as a house is built, not fabricated, and for that reason were usually costly."

DEVELOPMENT OF THE WOODEN TOWER BY THE DEFENDANT.

Mr. Braun testifies (R. 182):

"XQ. I have understood you in saying a wooden tower to mean a tower constructed substantially of wood. Up to the time that we

built this type of tower, the large louver type of tower, built substantially of wood, I had not seen any towers built by any concerns of this type, built substantially of wood. * * * The plaintiff's tower was not built substantially of wood. It was substantially a steel structure."

THE PROBLEMS INVOLVED IN TOWER CONSTRUCTION.

WIND STRESSES AND DECK LOADS.

Braun was the first one to build a wooden tower, or any tower for that matter, which would satisfactorily take care of the various factors tending to the destruction of these great structures.

Braun says (R. 193 and following):

"There are two types of loads in a cooling tower; one is the weight of the structure and of the water in the structure, and the other is the wind load, the load that tends to blow it over. One of the objects of extending these transverse members is to use the louvers as structural members, stiffening the entire tower and making the structure rigid as a whole. These louvers are bolted in between these transverse members J-1 and stiffen the tower from wind loads transversely by reason of the truss which is formed, and also stiffening the tower longitudinally by reason of the truss formed in this direction; that is, any tendency for the tower to move this way would be resisted by this portion in here."

VERTICAL DECK LOADS.

Mr. Braun has built towers up to 380 ft. in length, about 12 ft. in width and from 30 ft. to 35

ft. in height (R. 193-194). Mr. Braun says (R. 193-194):

> "30 to 35 feet is about an accepted standard for cooling towers, and that height seems to have been used almost universally in fan towers, as well as atmospheric towers; it seems to be about the limit that people are willing to pump water. It costs money to pump water."

As to the loads that these towers carry, Mr. Shattuck, Secretary and Engineer of the defendant company, says (R. 267-268):

> "As I recollect, these towers carry loads up to—the water alone, 100,000 gallons, would be roughly 800,000 pounds per minute, and distributed over the tower from some flume which often times has considerable head. There were numerous loads. Of course, there was a windage load to take into account, and the dead weight of the tower itself, the timber and wood material."

(To the same effect see Braun R. 196.)

HORIZONTAL WIND PRESSURES.

Concerning wind velocities and wind pressures, Mr. Braun tells us at R. 194 and 214 that the wind resistance is usually expressed in pounds per square foot. Most structures are 30 pounds per square foot. One can appreciate the tremendous pressure that a comparatively long, tall and transversely narrow structure of this sort must stand in a broadside gale. Thus a structure 380 ft. long and 35 ft. high

must, on the basis of 30 pounds to the square foot, be able to withstand a side pressure or thrust of approximately 400,000 pounds; this side pressure of 400,000 pounds being in addition to the 800,000 pounds dead weight of water, to say nothing of the weight of the structure itself. The importance of this, of course, becomes manifest when we come to consider what Mr. Braun accomplished in his tower design shown in the patent here counter-claimed and that he was the first person to build a scientific, successful and satisfactory tower entirely of wood, eliminating all external ground bracings and internal criss-cross timbering.

Braun says (R. 371):

> "The previous towers, with which I am familiar, including the Mitchell-Tappen cooling towers constructed at the Shell refinery at Martinez, and including the towers shown on the first Braun patent, have wooden deck-supporting members terminating at the column."

LOUVERS CONSTITUTE APPROXIMATELY 38 PER CENT OF THE MATERIAL IN THE TOWERS.

Thus Braun says (R. 371, 372-373), particularly referring to the Shell Mitchell-Tappen tower:

> "The supporting member for the louver really consisted of two angles, and each of those angles was riveted by a single rivet to vertical posts. In those structures the louvers added no structural strength to the tower, and did not in any way assist in the support of

either the vertical components of the wind load or the horizontal components of the wind load. In a structure such as shown by Exhibit D, having the members extending beyond the vertical columns and supporting the louvers, making use of the louvers as structural members, it is interesting to note that in the tower shown by Exhibit D approximately 38 per cent of the material in the tower is in the louvers.

* * * * * * *

"The COURT. What proportion of that is in the panel?

"A. Looking at it, I would say possibly 35 per cent would be in the board, and perhaps 3 per cent in the members at the end of the board. That 38 per cent does not include the projection of the deck members, but only the louver panel. Really, the entire 38 per cent would be in the panel, and is differentiated say 35 per cent in the boards and possibly 3 or 4 per cent in the end members of the panel. So that here is a large amount of material in the tower which heretofore has not been used for structural strength, although *one of the big factors in cooler design is structural strength.*"

The foregoing testimony stands absolutely unrefuted. The merit of the defendant's patented structure has found endorsement in the plaintiff's act of infringing imitation in abandoning its own steel construction and adopting the Braun construction in the Pasadena Ice Company plant.

Some desultory prior art has been referred to by the plaintiff in its effort to cast doubt on the validity of the Braun patent, but nothing better has been brought forward than that disclosed in the Braun File Wrapper.

IMMATERIAL EVEN IF BRAUN DID NOT FULLY APPRECIATE ALL THE MERITS OF HIS INVENTION AT THE TIME OF HIS APPLICATION.

In answer to plaintiff's contention suggested on page 34 of plaintiff's brief on appeal that the idea in Braun of attaining additional strength in a tower by the apparently simple expedient of continuing his deck supports beyond the uprights and so connecting them to the louvers and, in turn, connecting the louvers below to the uprights to form a strengthening truss and produce the remarkable results accomplished, was an afterthought, is, of course, wholly immaterial, even if that were the case.

Walker points out in Section 175 that the recital of function or the pointing out of advantages of a patent has no effect on its validity unless there has been some fraudulent concealment.

On this point see the Circuit Court of Appeals for the Third Circuit in *Mead-Morrison Mfg. Co. v. Exeter Machines Works,* 225 Fed. 489, 496, 497:

> "We have not overlooked the fact that there was no mention in the patent of the lessening of vibration which now appears to be the most striking advantage of the patent. But we do not think the failure to disclose all the merits of a device should now serve to defeat it. Very often subsequent use shows that claimed advantages did not materialize, and in the same way use sometimes brings to light unsuspected merits in a device. In either case the presence or absence of asserted advantages is of evidential weight in securing the patent. The gist of a disclosure is that it be so full as will enable

those versed in the art to thereafter use the device, and where such use, practice, mechanism, formula, etc., are fully disclosed, the requirements of the law are satisfied, without claiming every advantage such device may have. If subsequent use discloses unsuspected additional benefits the patentee is the gainer during the life of the patent, and the public when it expires."

The same Court in *Westmoreland Specialty Co. v. Hogan,* 167 Fed. 327, at page 328, said:

"The after-discovery of unsuspected usefulness in a disclosed apparatus, far from detracting from its value, may serve to enhance it. It is the benefits which test, use, and time unfold that really determine merit. It is this after-test, the test of use, that proves the worthlessness of the great majority of patents and establishes the value of the few."

See also the Circuit Court of Appeals for the Sixth Circuit in *Morgan Engineering Co. v. Alliance Machine Co.,* 176 Fed. 100, where the Court at page 107 announces the general rule as follows:

"Even if the patentee at the time of making his application did not know of this advantage, or knowing failed distinctly to express it, he, in view of what he did state and show, is entitled to have his invention considered with reference to it. Indeed, the crane cannot be constructed and operated in accordance with the plain terms of his description without observing and securing this advantage. This alone is sufficient. Goshen Sweeper Co. v. Bissell Carpet Sweeper Co., 72 Fed. 67, 73, 75, 19 C. C. A. 13; Dowagiac Mfg. Co. v. Superior Drill Co., 115 Fed. 886, 895, 53 C. C. A. 36; Stilwell-Bierce &

Smith-Vaile Co. v. Eufaula Cotton Oil Co., 117 Fed. 410, 415, 54 C. C. A. 584."

The foregoing, of course, all results from the general rule stated by Walker (Section 176):

> "A claim covers and secures a process, a machine, a manufacture, a composition of matter, or a design, and *never the function or result of either.*" (Italics ours).

THE COOLING TOWER PROBLEM NOT ONE OF EASY SOLUTION.

That this is so is recognized by Mr. Coffey, the engineer and patentee of the plaintiff who said (R. 72):

> "I first came in contact with atmospheric cooling I think in 1907 or 1908 through a connection I had with Edwin Burhorn who was then beginning the exploitation of the Ostendorff atmospheric cooling tower, which was, I believe, the first serious attempt to introduce this type of tower in the United States. *Ostendorff was one of the pioneer inventors of this type of apparatus.* I became very much interested in the atmospheric cooling problem from a scientific standpoint. *The condition of the science at that time being almost entirely rule of thumb.* In order to get data upon which some form of mathematical theory could be produced, *I made numerous tests of towers* then in existence and closely observed all I had the opportunity of visiting in actual operation. *I have continued my study of this subject which is a very baffling one and which is not yet on a sound theoretical basis to date.*" (Italics ours.)

FILE WRAPPER OF BRAUN PATENT No. 1,442,784, (Defendant's Exhibit "L"—R. 250).

The following patents, in evidence as Exhibits "O" and "T", inclusive, were cited by the Patent Office Examiner and finally considered as not anticipating the defendant's structure:

Burhorn, 1,182,635, May 9th, 1916,
Burhorn, 1,234,444, July 24th, 1917, as
Burhorn, No. 973,163, October 18th, 1910,
B. F. Hart, Jr., No. 902,875, November 3rd, 1908,
B. F. Hart, Jr., No. 1,228,207, May 29th,
Schmidt, No. 693,625, February 18th, 1902.

PRESUMPTION OF VALIDITY.

The Courts have uniformly held that the presumption of validity which attaches to every patent is strengthened by the consideration given in the Patent Office before the patent is granted, and authority for that is *United Shirt & Collar Company v. Beattie,* 138 Fed. 136, and *Brill v. New Jersey Street Railway Co.,* 124 Fed. 780.

PRIOR ART.

ALLEGED DEFENSE OF PRIOR USE AGAINST THE BRAUN PATENT FAILS.

Plaintiff in its effort to defeat the Braun patent introduced a drawing dated May 15th, 1919, for a

tower which it claims was to have been erected in Michigan. The drawing is in evidence as Plaintiff's Exhibit 19a, drawing 441.

Aside from the fact that it does not show the Braun patented construction, the witness Coffey has no knowledge of any such tower being erected, and no other witness is called to show that such a tower was erected, or, if erected, how it was constructed or whether or not it corresponded to the drawings.

Thus Coffey says (R. 123):

> "RD. Q. 136. Do you know, of your own knowledge, whether a tower in accordance with this drawing No. 441, Plaintiff's Exhibit 19, was actually constructed? A. *I do not.*" (Italics ours.)

As against this, the defendant showed a possession of the invention of the Braun patent in suit at least as early as the spring of 1919 and the making of drawings and other work before and following the discharge of defendant's engineer, Mr. Shattuck, from the army in April, 1919.

HART TOWERS.

While Coffey and Phillips refer generally, and quite loosely, to towers constructed by one B. F. Hart, who appears also to have been a patentee in this field, having two patents issued to him as follows:

902,875—November 3, 1908,
1,228,207—May 29th, 1917,

both of which were cited in the Braun File Wrapper. Neither the Hart patent nor the Hart towers, which the witness Phillips testified to, show, describe nor suggest the construction of the defendant's patent. The Hart tower is first of all a metal tower.

Concerning the first Hart patent (Q. 69, R. 105), Phillips says:

> "A. *The louver support is not clearly shown in the patent drawing.* This patent being taken out principally to show the method of leading off the water dripping from the tower. The *method* of *support is the usual triangular support as used in construction work for centuries.*" (Italics ours.)

The deck construction of Hart was of metal and not wood. Thus Phillips (R. 106):

> "XQ. 72. What was the construction of the deck members of the Hart tower that you saw at Elder & Wells in 1913?
>
> "A. They were made of galvanized iron formed in accordance with Hart's standard design."

Aside from the fact that the Hart device was a metal tower, the louvers were supported much after the fashion of a gutter under the eaves by straps or of fastening a fire escape on the side of a building; there being no interrelation or mutual support between the Hart louvers and the Hart frame.

THE HART PATENTS AMBIGUOUS.

Phillips says (R., 106):

"XQ. 73. Did the method of construction of supporting the louver construction of the Hart tower that you saw in 1913 correspond with the method shown in Hart patent 902875?

"A. *The patent does not clearly show the method of supporting the louvers.*

"XQ. 74. Do you mean that it doesn't show any method of supporting the louver or that you cannot understand the method shown in the patent?

"A. *The patent does not cover louver supports.*" (Italics ours.)

And again (R. 106-107) Phillips says:

"XQ. 78. And 11′ also indicates, does it not, straps or braces extending from the bottom of the louver to the lower level of the tower?

"A. No. It indicates straps from both the lower and upper edges of the louver.

* * * * * * *

"A. The straps shown in the figure are a part of the louver bracing.

* * * * * * *

"The patent drawing is not clear as to whether it refers to a strap or a part of the louver and the louver itself, if stiff enough, can be used as the inclined member of the triangular support as a part of the iron of support."

The second Hart patent (of 1917), in addition to its having been cited and considered by the Patent Office and held not to anticipate Braun, is considered at some length in the affidavit of defendant's expert

Mr. Chas. Moser, to whose testimony reference will later be made. This Hart patent, like the first one, is for a steel tower with an elaborate system of internal bracing and wherein the louvers give no more support nor stability to the tower than does a fire escape hung on the outside of a building. The strap hangers 22 of Hart merely serve to keep the top end of the louvers from falling away from the tower.

Of course, any testimony given by Phillips as to towers he may have seen in actual practice is based merely on recollection, unsupported by any record evidence, drawings or physical exhibits to indicate what the construction was he might have seen, much less when he saw it. Such sort of proof, of course, is not entitled to any weight on the question of anticipation of a duly and regularly issued patent.

Witness Coffey admits that his recollection as to the Hart construction, as well as when he first saw the Hart towers is hazy (R. 118):

> "XQ. 119. What was the first cooling tower erected by B. Franklin Hart that you had personal knowledge of?
>
> "A. I could not answer that question. I have seen a great many of his towers and at this late date the exact dates when I saw the towers is not in my mind at all; I only know in a general way a few towers whose location I do remember and the time of observation of these towers is only fixed approximately in relation to other matters."

As said by the Supreme Court in *Deering v. Winona Harvester Works,* 155 U. S. 286:

> "Oral testimony, unsupported by patents or exhibits, tending to show prior use of a device regularly patented, is open to grave suspicion."

Also see the *Barbed Wire Case.*

Walker on Patents, 2nd Edition, Section 76, page 70, says:

> "The unsupported oral testimony of one witness is seldom strong enough to negative the novelty of the patent beyond a reasonable doubt; and the oral testimony of many witnesses, if unsupported by any evidence consisting of documents or things, must be very reasonable and very strong in order to negative novelty. This rule of reasonable doubt applies where the question of novelty depends upon the identity of the patented thing or process with the alleged anticipation, as well as where that question depends upon the existence or the priority of the latter."

In *Emerson Electric Mfg. Co. v. Van Nort Bros. Electric Co.,* 116 Fed. 974, the Court says:

> "The oral testimony of witnesses speaking from memory only in respect to past transactions and old structures claimed to anticipate a patented device, but which are not produced, is very unreliable, and it must be so clear and satisfactory as to convince the court beyond a reasonable doubt before it will be accepted as establishing anticipation."

THE ESTABLISHMENT OF THE EXISTENCE OF THE ALLEGED PRIOR USE TO DEFEAT BRAUN BEYOND A REASONABLE DOUBT IS ON THE PLAINTIFF AND MUST BE SUSTAINED WITHOUT REFERENCE TO ANY PROOFS OFFERED BY THE DEFENDANT IN REBUTTAL.

Cantrell v. Wallick, 117 U. S. 695 (29:1019);
Coffin v. Ogden, 85 U. S. 18 Wall. 120, 124 (21:821), 823;
Washburn v. Gould, 3 Story 122, 142;
American Bell Telephone Co. v. People's Telephone Co., 22 Fed. 309;
Lehnbeuter v. Holtaus, 105 U. S. 94 (26:939).

Want of invention of a combination cannot be predicated on the ground that the means are so simple that skilled mechanics believe they could have produced the same result *(Ross v. Montana Union Ry. Co.,* 45 Fed. 424; *Earle v. Sawyer,* Fed. Cases No. 4247).

It is a well settled rule of law that

> "The unsuccessful experiments of others tend to show the exercise of inventive genius by the one who first produced a successful result." *(Ham Co. v. Dietz Co.,* 13 C. C. A. 690.)

As said in *General Electric Co. v. Wagner Electric Co.,* 130 Fed. 772:

> "Where a prior device is set up as an anticipation of the complainant's patent and it appears that the defendant did not use or improve upon it, but adopted complainant's, the prior device is not an anticipation."

Plaintiff has left it largely to the Court to figure out what the structures are and what structures plaintiff is relying on to anticipate the Braun patent, since plaintiff called no witnesses, in addition to Coffey and Phillips in New York, except Mr. Braun and examined him as to the two towers which Mr. Braun's company purchased from the plaintiff in 1915 and erected as erection engineers for the Shell Oil Company at Martinez. A large mass of blue prints representing the working drawings of this so-called Shell Company job are in evidence. These drawings or copies of them had been supplied the Braun Company in accordance with the contract between the plaintiff and the defendant at the time the towers were erected, the drawings later being returned to the plaintiff or rather to the plaintiff's predecessor, the Mitchell-Tappen Company, when the job was completed and paid for.

Plaintiff's counsel contends in argument, although there is no evidence to the fact, that the Shell Oil Company's original 1915 towers embodied the structure of the Coffey Patent No. 1,158,107 of 1915 (not sued on) as well as the spline and groove system of the patent in suit. Whether or not that is a fact is wholly immaterial to the present issue. Mr. Braun has described the Shell Company towers as actually erected at Martinez, so that that description may embrace a description of this Coffey patent No.

1,158,107, which latter, we understand, has been introduced solely for the purpose of attempting to spell out an anticipation or limitation of the Braun patent.

As said by your Honors in *Stebler v. Riverside Heights Orange Growers' Assn.*, 205 Fed. 735-738:

> "True, we may pick out one similarity in one of these devices, and one in another, and still one in another, and, by combining them all, anticipate the inventive idea expressed in the Strain patent, but the combination constituting the invention is not found in any one of them. As we had occasion to say in Los Alamitos Sugar Co. v. Carroll, 173 Fed. 280, 97 C. C. A. 446:
>
> > "'It is not sufficient, to constitute an anticipation, that the devices relied upon might, by a process of modification, reorganization, or combination, be made to accomplish the function performed by the device of the patent.' Western Elec. Co. v. Home Tel. Co. (C. C.) 85 Fed. 649; Topliff v. Topliff, 145 U. S. 156, 12 Sup. Ct. 825, 36 L. Ed. 658; Gunn v. Bridgeport Brass Co. (C. C.) 148 Fed. 239; Ryan v. Newark Co. (C. C.) 96 Fed. 100; Simonds R. M. Co. v. Hathorn Mfg. Co. (C. C.) 90 Fed. 201-208; Gormully & J. Co. v. Stanley Cycle Co. (C. C.) 90 Fed. 279; Merrow v. Shoemaker (C. C.) 59 Fed. 120."

> "A patent for a combination is not anticipated nor invalid for lack of invention because an expert may be able to build up the patented device by selecting parts taken from the prior art. (For other cases see Patents Cent. Dig. Secs. 27-30; Dec. Dig. Sec. 26.) Kryptok Co. v. Stead Lens Co., 207 Fed. 85, 93.

"(C. C. A. 3rd Cir., 1913.) Each and every separate element of a combination may be old, and yet the combination as a whole may show patentable novelty and invention. (Decree 201 F. 356 affirmed.) E. H. Freeman Electric Co. v. Johns-Pratt Co., 204 Fed. 288."

Invention has been defined to be:

"The double mental act of discerning in existing machines, processes, or articles, some deficiency and pointing out the means of overcoming it." *(General Electric Co. v. Sangamo Electric Co.,* 174 Fed. 346, 351.)

NEITHER THE SHELL COMPANY PRIOR USE AT MARTINEZ NOR THE COFFEY PATENT No. 1,158,107 WAS PLEADED.

Plaintiff at the opening of the trial presented a proposed amendment to the answer, in which the above-mentioned Coffey patent and certain other patents of Coffey, including the patent in suit as well as the Shell Company's 1915 prior use, were attempted to be set up as anticipations. The motion to amend was denied as being negligently interposed by the plaintiff.

It cannot therefore be used for anticipation.

Morton v. Llewellyn, 164 Fed. 693 (C. C. A. 9th, Judges Gilbert, Ross and Morrow):

"The law is well settled that the defendant to a suit for infringement must give notice in his answer of any defense by way of prior patents, publications, or public use, if he desires to prove any of such defenses to show

want of novelty or invention in the patent sued on. Otherwise such defenses are receivable in evidence only to show the state of the art, and to aid in the proper construction of the patent."

LACHES OF PLAINTIFF.

The reckless and rambling charges made so frequently in the past by plaintiff against this defendant and its officers, with never any attempt to see whether their insinuations and suspicions had any foundation in substance, are even reflected in plaintiff's brief on appeal.

After referring to the Coffey patent No. 1,158,107, which is *not* in suit and which was not pleaded, plaintiff says at page 10 of its brief:

> "It is submitted that defendant's structure also infringes this patent (Coffey 1,158,107) but, *owing to lack of information* at the time the suit was brought, infringement of this patent was not charged in the bill." (Italics ours.)

And on page 37 plaintiff states:

> "It was shown on the trial that the defendant had several times modified the form and details of its construction and that at least *one of the other patents of the plaintiff is probably infringed* at this time by the latest modification of defendant's device." (Italics ours.)

Then at page 38 we are virtuously told:

> "The owner of a patent may lawfully warn others against infringement and give notice

> of his invention to enforce his right *if done in good faith.*" (Italics ours.)

Inasmuch as the plaintiff's construction has remained practically unchanged since 1919 when the present wood tower and brass ribbon construction was evolved; and it is admitted that the plaintiff and defendant are not only in the same line of business and dealing in the same territory; it is reasonable to presume that ample opportunity was offered plaintiff and its agents at all times to learn exactly what the defendant was doing. This should be especially so when we consider that a cooling tower is not something capable of being concealed in the vest pocket.

The obvious answer to the direct and indirect charges of infringement now made of other patents of plaintiff by defendant is that said statements are utterly untrue and unfounded, as seen by a most cursory study of the two claims of the Coffey patent referred to *but not in suit.*

We shall not waste our time or that of the Court in further answering such a petulant, if not frivolous, charge made at this late date. Were the charge made in good faith, it would be appropriate to refer to numerous cases on the subject of "conscience, good faith and reasonable diligence".

> "The defense of want of knowledge on the part of one charged with laches is one easily made, easy to prove by his own oath, and hard

> to disprove; and, hence, the tendency of courts in recent years has been to hold the plaintiff to a rigid compliance with the law which demands, not only that he should have been ignorant of the fraud, but that he should have used reasonable diligence to have informed himself of all the facts."
>
> *Foster v. Mansfield,* 146 U. S. 88, 99.

Recently the Circuit Court of Appeals for the Third Circuit in *Window Glass Machine Co. v. Pittsburgh Plate Glass Co.,* 284 Fed. 645, 649 (a patent case) said:

> "The circumstances were such, without repeating them at length, that the plaintiffs knew or were chargeable with knowledge of the practices and the apparatus employed by the defendant at its several works during these periods. On these facts and circumstances the defendant makes the defense of laches.
>
> * * * * * * *
>
> "In Prince's Metallic Paint Co. v. Prince Mfg. Co., 57 Fed. 938, 944, 6 C. C. A. 647, 652, Judge Acheson, speaking for this court, stated the principle as follows:
>
> " 'In courts of equity the rule is to withhold relief where there has been unreasonable delay in prosecuting a claim, or long acquiescence in the assertion of adverse rights. Again and again has it been judicially declared that nothing can call into activity a court of equity but "conscience, good faith and reasonable diligence".' "

The force of these decisions is directly applicable to plaintiff's belated claim on the Coffey patent in suit.

NEITHER THE SHELL COMPANY PRIOR USE NOR THE COFFEY 1915 PATENT NOR ANY OF THE PATENTS OF THE PRIOR ART EMBODY THE BRAUN CONCEPT.

There is a little paper model in evidence as Defendant's Exhibit "QQ" (R. 303), which will illustrate the Coffey construction and the mode of hanging the louvers on the tower.

If one turns to the Coffey 1915 patent, the drawing of which is reproduced on the opposite page, it quickly becomes manifest how different the Coffey steel tower is from the Braun construction. Referring to the Coffey drawings opposite:

Fig. 1 is a plan view of the tower.

Fig. 2 is an elevation of the tower.

Fig. 3 is a section on line 1-1 of Figs. 1 and 2 (the horizontal lines of the zigzags of Fig. 3 being merely the visible top edges of the end louvers and are not braces at all).

Fig. 4 is an intermediate vertical girder post.

Fig. 5 is a corner post.

Figs. 6 and 7 are details of fastening means for the louvers to the respective posts 1 and 2.

The tower is essentially a steel tower, depending for inherent strength on its internal cross bracing of the tie-rods 4.

The patentee refers, just as do the blueprints in the Shell Company, to the use of two types of posts—one known as "corner posts," of which there are four and numbered 1 in the drawing, and

B. H. COFFEY.

COOLING TOWER.

APPLICATION FILED JUNE 8, 1914.

1,158,107.

Patented Oct. 26, 1915.

Witnesses

Inventor.

Benton H. Coffey.

the other "intermediate posts" or "latticed girder posts 2" as they are spoken of in the patent. The louvers are numbered 15 (see line 102 of the patent and Fig. 5 of the drawings).

Note that these louvers 15 (Fig. 5) rest on inclined supports 11 and can add nothing to the stability of the structure but rather increase the dead weight that must be hung on the outside of the tower proper. Manifestly, there is nothing in this patent even remotely suggestive of the Braun concept.

In regard to the Martinez towers for the Shell Oil Company, Mr. Braun being called as a witness for the plaintiff and shown the blueprints in evidence of the Shell Company job says (R. 153):

> "We received drawings at least very similar to these. I cannot remember detail drawings since 1914."

Thus (R. 164):

> "The COURT. I suppose the idea is that the details of this tower are such that your contention would be that the patent as issued to the defendant was a very similar device in some way.
>
> "Mr. FOULDS. The identical thing, and I want the Court to understand this."

The futility of the plaintiff's efforts as showing any frame and louver construction and support in the Shell Company drawings comparable with the construction evolved by the defendant and covered by its patent in suit is seen by the attempt

to construe the support for the walk or trackway around the tower of the Shell Company construction as comparable with the patented Braun construction.

Thus at R. 165 on direct examination of plaintiff's counsel Braun testifies:

> "Q. And was the horizontal deck frame substantially a continuation of this horizontal louver support? A. No. * * *
>
> "A. This horizontal support is a walk support. You made the statement that it was a horizontal louver support."

PLAINTIFF'S SHELL OIL COMPANY TOWERS AT MARTINEZ IN NO WAY INVOLVED THE BRAUN CONCEPT.

(R. 197):

> "The first two towers built at Martinez were substantially as shown on the drawings. These towers had steel main columns, from which the louvers were supported by small steel members. The decks were supported by transverse wooden members bolted at each end to the column. There was *no connection structurally between the decks or the deck supports and the louvers* or louver supports. The overflow troughs were of a tapered type; shown in one of the Coffey patents. The distributing deck was spaced by *loose splines;* the longitudinal decks were spaced by *loose splines* and secured to the transverse members by lag screws or nails. There was no redistributing deck in the tower. That is briefly a description of that tower." (Italics ours.)

Again Braun says (R. 201):

> "Q. Now, what contribution to the strength of the tower, if any, did the louvers and their supports in the 1915 tower bear to the rest of the structure? A. None.
> * * * "the transverse members supporting the deck and tying columns together are not connected to any of the louver members."

Continuing Braun says (R. 224):

> "The distinctive difference between the louvers of the original Shell towers and the towers that we are now building is the fact that they were not in panel, and that they were *not rigidly fastened to the angular members in such a manner as to give structural strength.*"

PLAINTIFF VOUCHES FOR BRAUN'S CREDIBILITY.

Plaintiff having called Braun as its witness, vouches for his credibility; particularly since they made no attempt to call any other witness on the subject to attempt any disapproval of Mr. Braun's frank and candid statements even were his testimony capable of impeachment.

> "We have noted that the individual defendants had filed answers under oath. It is to be observed, also, that two of them, Row and Thompson, were called as witnesses by the plaintiff. By calling them as witnesses, the plaintiff asserts that they are credible persons, and is estopped from impeaching their credibility."
>
> *Standard Water Systems Co. v. Griscom-Russell Co.*, 278 Fed. 704.

BRAUN DESCRIBES THE SHELL OIL COMPANY DRAWINGS AND SHELL STRUCTURE.

Mr. Braun says (R. 291-292):

"A. These drawings are not entirely complete, and they are not to scale, that is, they are distorted so that the drawing does not show clearly to the observer the relative location of all parts."

SHELL DRAWINGS INCOMPLETE.

"These drawings are not entirely complete, some drawings being referred to which are not here, but with the aid of the specifications and my slight memory of the structure, I feel confident that I can describe it with reasonable accuracy.

Referring to drawing No. 116, showing the outlines of the tower, it will be seen that the tower consists essentially of a number of columns supporting on one side decks and on the other side louvers. These columns are of three types, namely, 'L. P.,' standing presumably for 'louver posts,' 'I. P.,' standing presumably for 'intermediate posts,' and 'C. P.,' standing presumably for 'corner posts.' These markings appear on the drawing 116, and on the respective detail drawings of these members."

(NOTE: Although the 1915 Coffey patent refers as we have seen, to "corner posts" and "intermediate posts", it makes no reference to "louver posts".)

Referring to the Shell specifications and in further support of the difference between the plaintiff's steel tower Shell construction and defend-

ant's patented wood construction, Mr. Braun reads from the Shell specification. He says (R. 295-296):

> "I refer to Fig. 8 of the specifications, marked 'Plan view, corner of tower'; this sketch shows a temporary bracing from the vertical column to the appended louver supporting bracket. I read particularly the following paragraph from this specification, this paragraph being entitled, 'Temporary bracing':
>
> " 'In both steel and wood construction the outstanding parts of the C. P. posts should be accurately set at 45 degrees and held by temporary wood struts before laying the louvers as illustrated in Fig. 8. Put in as many struts as required to take any twist or bend out of the post. Any twist or bend in the I. P. or L. P. posts should be likewise taken out before bolting up. After the louvers are completed the open spaces'—this has no further bearing. *I have referred particularly to Fig. 8 to show that the louver-supporting members are not an integral part of the tower structure, and have practically no strength to resist rotation in a direction around the vertical axis of the column.*"

Braun says (R. 294) concerning the hangers for supporting the louvers:

> "They are *therefore not an extension of the deck-supporting members.* I have shown this clearly on the sketch, which shows that the *deck-supporting members are attached to the column* at a point above the point at which the small, angular appended louver members are attached." (Italics ours.)

And again (R. 296) Braun says:

"The column in this case sets square with the tower so that it would be impossible to bolt the angle louver supporting members to the column without bending them."

And again (R. 296-297):

"The transverse deck-supporting members are bolted directly to the columns in a manner similar to the way in which the transverse deck-supporting members are bolted to the L. P. posts.

* * * * * * *

"These I. P. or intermediate posts differ in design from the L. P. posts principally in the fact that there are two angles instead of one angle to the main column."

And again (R. 298), he says:

"In all three types of columns there are no deck-supporting members extended beyond the column." (Italics ours.)

ROTATION OF LOUVER SUPPORTS ABOUT THE COLLARS.

Braun says (R. 303):

"Mr. TOWNSEND. Have you anything to add, Mr. Braun, to what you have already said?

"A. Otherwise, I can add that the transverse deck-supporting members are attached to the columns by one eye-bolt and are therefore free to rotate to that point. I would like to introduce a small model to show that feature.

* * * * * * *

"Mr. TOWNSEND. The little pasteboard model is offered as Defendant's Exhibit 'QQ.'"

(R. 304-305):

"The COURT. What office does that which you call the vertical spacing member fulfill?

A. I believe that it is an alignment member for holding these appended louver angles in alignment and properly spaced. These louver angles are quite light, and would not, by themselves, remain in alignment.

STABILITY IN SHELL TOWERS DUE SOLELY TO INTEGRAL TIE RODS.

"The point I wish to bring out particularly with this model is that these transverse deck-supporting members are not secured to either the louver-supporting members or the column in such a manner as to prevent rotation. *The louver members are, therefore, incapable of adding any strength to the stability of the tower; as the wind blowing against these louvers, particularly on the outside, would have a tendency to rotate the column on its base to the right, these appended louver supports can absolutely in no way whatsoever offer any resistance to that rotating effect;* they *would rotate as a whole;* the stability of this Mitchell-Tappen tower, as shown by these drawings, this sketch exhibit 'OO,' and this model must be *obtained solely from tie rods, guy wires, or some similar devices tieing the columns together,* and attached at such angles as to resist rotation of the column in space." (Italics ours.)

THAT THE LOUVERS OF THE SHELL CONSTRUCTION CAN GIVE NO MATERIAL REINFORCEMENT IS MADE MORE APPARENT WHEN THE GREAT LENGTH OF THE TOWER IS CONSIDERED WITH RELATION TO ITS WIDTH.

Thus Braun says (R. 305-306):

"These towers are relatively long with relation to their width and they are by selection installed transversely of the prevailing wind, that is, it is desired that the wind blow across the tower, rather than longitudinally of it, so that more wind will enter the tower. Any bracing, due to the end members, would not add material support to a long tower; they would have to be supported through the tower. As a matter of fact, referring to plan 116, the louver boards are laid upon the inclined supporting bracket marked 12 on drawing 59, which are very light members, which are attached to the end columns only by single half-inch rivets and are in no way extended into or secured to the tower structure in such manner as to prevent rotation of the appended bracket about the vertical axis of the column; that is, a wind blowing in the direction that I indicate by an arrow marked 'Wind' would, if the louvers were secured firmly to the appended brackets, tend to rotate the brackets about the column. As I have previously stated, these brackets would have practically no resistance, or no substantial resistance to the rotation about that column. *On the contrary, in the Braun structure these louver-supporting members are integral with and, in fact, a part of the structural members of the tower which project from the tower structure,* and are substantial structural members, and are *held from rotation* either around the vertical axis of the tower or in the horizontal direction of the axis of the tower." (Italics ours.)

COFFEY'S LOUVERS HUNG ON OUTSIDE LIKE A FIRE ESCAPE.

Concerning the bracing and supports for the "Shell Steel Towers" relied on by plaintiff to anticipate defendant's Braun patent, Mr. Braun says (R. 308):

> "They are attached to the columns and have no connection with the main frame, whatever; they are light and they are attached in exactly the same manner as a shelf bracket to a wall, or a fire escape to a building, and add absolutely nothing to the structural strength of the tower."

THE DECK MEMBERS IN THE MARTINEZ MITCHELL-TAPPEN TOWER TERMINATED IN VERTICAL POSTS.

Thus Braun says (R. 381):

> "The deck members terminated at the vertical posts and the tie rods were on the interior of the tower, and between the posts."

It is further emphasized on cross-examination by Mr. Braun (R. 382-383-384):

> "There was a small angle connected by one rivet to the vertical column, and by one rivet to the vertical tie member, and this angle was to support the walk-away. It was not an extension of the deck in any sense of the word.
>
> * * * * * * *
>
> *"I know that the two towers at Martinez became so unstable that they were condemned as being dangerous and unsafe.*
>
> * * * * * * *

"The framework was condemned as being unsafe to withstand any unusual condition such as wind.

* * * * * * *

"The COURT: How long were those towers there at Martinez?

"A. They were there about four years.

* * * * * * *

"All cooling towers waters have concentration of salts, and that is one of the reasons that cooling towers have to be made very strong."

Plaintiff's counsel attempted on the trial to make it appear that a bracket nailed onto the outside of a post in continuation or substantial continuation of a deck member is the same as a Braun construction. There are any number of practical answers to this hypothetical condition.

Bearing in mind the operative conditions of a cooling tower of the Braun type, including loads and stresses and the practical considerations involved, it would seem strange that if the problem is as simple as the plaintiff would have us believe it is, that no one did it in the Braun way before or did anything that would approach the Braun principle of restrained beam and cantilever structure as distinguished from an ordinary simple beam and louver bracket construction of the prior art.

These differences in principle are more fully explained in Mr. Moser's affidavit with reference to his stress chart appended thereto and reproduced herein.

Further than that it is to be pointed out that the Braun type of tower involved the fewest number of members and the fewest structural members and structural details. It can be assembled in the shop in units ready for erection in the field, whereby the field work is reduced to a minimum. The co-operation of the main deck members and the louver members result in members of light weight, presenting no structural difficulties in fabrication or erection. It is not sufficient that the connection between the deck member and the post alone be as strong as the unbroken deck member. In the plaintiff's towers the deck member is very much heavier than the horizontal louver member. Consequently the continuity of strength passed in the post is impossible, regardless of the details of connection.

The steel frame of a building is not comparable with the steel frame of a cooling tower. In the steel frame of a building the girders carry exceptionally heavy loads and they must center in the post. You cannot have them hanging on the side, and moreover they must be in the same plane, otherwise the concrete or stone wall, or whatever you have, will not inclose with the steel.

BRAUN IDEA NOT ANTICIPATED NOR SUGGESTED BY PRIOR ART.

Mr. Chas. Moser, of the Engineering Faculty of Stanford University, was called by defendant as an

expert to compare the Braun patented structure with the prior art, and with particular reference to the Hart patents which are really the only patents worthy of consideration set up to anticipate or limit the Braun patent.

In connection with his affidavit (see book of exhibits R. 86-98), Mr. Moser submits a graphic chart, which is reproduced on the opposite page, to show the outstanding differences, both in construction and principle, between the patented Braun all-wood tower and the towers of the prior art.

Mr. Moser's affidavit is illustrated by some little wooden models, in evidence as Exhibits Moser Models "A," "B" and "C" (so-called "Model G" is Exhibit "G").

Moser's Model "A" illustrates the Hart structure as shown in patent No. 1,228,207, it being kept in mind that this Hart patent was one of the principal references relied on by the Patent Office to meet the Braun claims as appears by reference to the Braun File Wrapper.

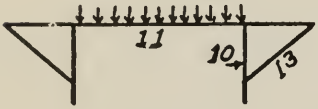
In that connection it is also worthy to be pointed out that the presumption of validity of the patent is enhanced rather than diminished by the fact that the art most strongly relied upon by parties seeking to avoid infringement or to defeat a patent was considered by the Patent Office Examiner.

Moser's model Exhibit "B" exemplifies plaintiff's construction illustrated in blueprint No. 59, or the old 1914 Shell Company steel tower.

DIAGRAM "MOSER D"
SHOWING RELATIVE STRESSES
IN TOWER MEMBERS.

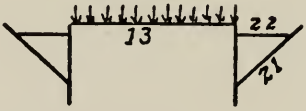
BRAUN TYPE.

DECK LOAD.



PLAINTIFF'S AND HART TYPE.

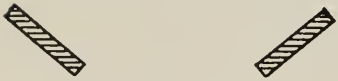
DECK LOAD.



STRESS DIAGRAMS FOR DECK LOADS.

MEMBER 11. BENDING.

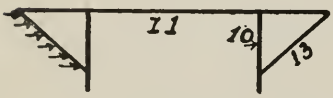
MEMBER 13. TENSION.



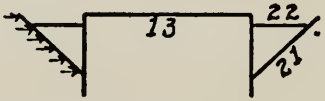
MEMBER 13. BENDING.

MEMBERS 21 AND 22 ARE IDLE.

LATERAL LOAD.



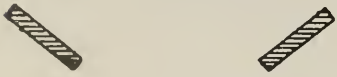
LATERAL LOAD.



STRESS DIAGRAMS FOR LATERAL LOADS.

MEM. 11. BENDING AND TENSION OR COMPRESSION.

MEM. 13. TENSION OR COMPRESSION.



UNSTABLE FOR LATERAL LOAD.

Moser's model Exhibit "C" typifies the Braun construction of Braun patent No. 1,442,784 charged in the counter-claim to be infringed by plaintiff.

Moser's model Exhibit "G" represents the Shell Company's construction according to the plaintiff's patent (R. 197).

In the diagrammatic sketch (Moser Exhibit "D") reproduced supra, the reference numerals correspond respectively to those in the Braun patent No. 1,442,784 and the Hart patent No. 1,228,207; the object of this sketch being to contrast the effective action of the structural elements and stresses in the two types of towers.

Mr. Moser saying (R. 90):

> "First by showing the deck load and the effect of *bending* stresses on the horizontal members, and secondly by showing the *lateral* load and the effect upon the horizontal members when the lateral load is imposed." (Italics Moser's.)

It can readily be understood that the so-called "bending stresses" result from the deck load imposed by the weight of the water. That this weight is tremendous is emphasized by the fact that in one of these Braun towers now in use over 100.000 gallons of water per minute, weighing 8.33 lbs. per gallon means the distribution of *a total load of over 800,000 lbs. within the tower structure every minute!*

The lateral load or stresses referred to by Mr. Moser mean the effect of windage.

With these factors in mind, it becomes easier for the lay mind to appreciate something of the problem that confronts the engineer in the building of a successful cooling tower, particularly where it would be made entirely of wood and cross braces are to be eliminated.

In considering Mr. Moser's explanation it is to be borne in mind that no distinction is made between the Hart type of tower and the plaintiff's type of tower, inasmuch as in both there is an absence of any cooperation or strength giving qualities between the louver construction and the frame construction and likewise in both Hart and plaintiff the stability of the structure depends almost entirely on cross bracing within the tower.

Referring to diagram Moser D it will be observed that the horizontal deck member has a maximum bending stress at the vertical post. Since the horizontal member continues unbroken beyond the post the connection with the post may be made by means of a single bolt at the center of the horizontal member. The diminution of the strength in the horizontal member due to this hole is negligible.

Mr. Moser points out (R. 91):

> "From a structural standpoint both the Hart and the plaintiff's towers consist of two more or less independent structures, namely the main supporting structure comprising the vertical posts which are marked 10 in the Hart patent mentioned, and the horizontal framing member marked 13, and the accessory structure com-

posed of the inclined members or louvers marked 21, and the horizontal ties marked 22. The panel marked 25 in the Hart patent is included to hold the two bents in proper relation to each other, but forms no essential element of the structure.

"*In both the Hart and plaintiff's towers the louvers and horizontal ties are designed solely as wind-brakes and constitute an added load on the main frame without contributing in any measureable degree to its structural stability.* These two portions of the tower do not cooperate in any substantial manner in carrying loads. Thus, in carrying the *vertical deck load,* the main horizontal framing member 13 is deprived of the assistance which the outstanding horizontal member 22 might have furnished had it been a continuation of the horizontal member 13 instead of being a separate member.

"Likewise, the outstanding horizontal member or tie 22 of Hart or plaintiff can receive no assistance from the main horizontal member 13. Consequently, the field of action of the outstanding member 22 is very limited and it can support no vertical load except the louver 21 be in place. Therefore, each of the horizontal members 13 and 22 must independently support its own loads." (Mr. Moser's italics.)

As showing what the effect of high windage force would be even on a small tower of the Hart-plaintiff type Mr. Moser says (R. 92):

"With respect to a horizontal load as the force of wind which on a cooling tower 20 feet high and 50 feet long amounts to 30,000 pounds, the two portions, either individually or collectively, are without stability. This situation is due to the fact that the main hori-

zontal framing member 13 and the outstanding horizontal member 22 supporting the louver are separate pieces whose end connections at the main vertical posts 10 are incapable of preventing rotation when in actual horizontal working load is applied to the structure against the panels 25."

Concerning the deck loads and bending stresses Mr. Moser says (R. 90):

> "By comparing the *bending stress* diagrams for *deck loads* it will be seen that the horizontal members of the Braun tower undergo *less stress and strain* than the horizontal members of the Hart or plaintiff's towers. This situation is due to the fact that members 13 in Braun act as tension members to relieve and distribute the stresses in the horizontal members, while in the Hart or plaintiff's structures members 21 and 22 are idle when the deck load is applied and do not so relieve the stresses in the horizontal deck supporting member. This situation is more fully explained in paragraph 6." (Moser's italics.)

In comparing the effect of lateral stresses on the Braun tower on the one hand and the Hart-plaintiff type of tower on the other, Moser says (p. 91):

> "For lateral loads imparted against the side of the Braun tower the entire beam 11 of Braun and his opposite louver braces 13 will act in resisting the load, while in the Hart-plaintiff type of tower the structure will be *unstable as far as lateral load is concerned.*
>
> "From the foregoing it will be seen that by the use by Braun of horizontal deck supporting members 11 which extend *beyond the posts* 10 and are tied thereto by the inclined members 13, the beams will be performing useful work

at all times and with less stress than in the Hart-plaintiff type of tower." (Moser's italics.)

Furthermore, Moser says (R. 93):

"In the Braun tower the various structural features as shown in the model Moser C are so designed and arranged as to constitute an integral structure, each element of which, (in addition to carrying its own locally imposed loads, as do the like members in the Hart and plaintiff's towers), is able and does make a substantial contribution toward the stability and efficiency of the structures as a whole, a function entirely lacking in Hart or plaintiff.

"In Braun the main horizontal framing member 11 extends outwardly beyond the main vertical post 10 to form the louver support instead of being cut to a length just sufficient to spike or bolt to the vertical posts 10 and requiring an additional horizontal piece for the louver support.

"The continuation of the horizontal framing member 10 in Braun beyond the post without cutting and tying it to the louver, forms a cantilever beam, making it possible for the various members of the structures to cooperate advantageously in a manner impossible in the Hart or plaintiff's type of tower."

ROTATIVE ACTION OF HART-PLAINTIFF LOUVER SUPPORT METHOD IN CONTRAST TO THE TRUSSED CONSTRUCTION OF BRAUN.

Mr. Moser points out the rotary action or tendency to rotation of the Hart-plaintiff type of louver support in which he is supported by Mr. Braun.

On this point Moser says (R. 92):

> "Referring to the models Moser A and B, I would say that I am aware of the fact that the ends of the horizontal members 13 and 22 are attached to the main vertical post 10 by either nails, bolts, pins or light brackets and that such attachments provide a joint with some slight degree of rigidity. However, while such joints may be said to be rigid with respect to the thrust of a man's hand or the blow of a carpenter's hammer, they are incapable of resisting the rotating influence of actual working loads and are therefore to be classed as pivoted joints, and in any event the construction of the louver cannot possibly add to the rigidity of the tower as a whole."

And, again in his affidavit he says (R. 95):

> "As previously pointed out in paragraph 4 the stability of towers of the Hart or plaintiff's type against lateral loads does not involve the details of louver construction. Plaintiff's Model G embodies features which illustrate this fact. Thus, assume the main vertical posts in position and the interior horizontal deck supports in place. In this condition the structure has no stability due to the fact that the horizontal members merely rest upon brackets attached to the main vertical posts, or are toenailed against the posts, affording a connection capable of carrying the vertical loads, but being unstable in the matter of rotation."

In further emphasizing the distinction between Hart and plaintiff's towers on the one hand and the Braun tower on the other, Mr. Moser says (R. 94):

> "As previously pointed out the louvers in the Hart and plaintiff's towers are incapable of con-

tributing in the slightest degree to the stability of the tower against horizontal loads because of the lack of continuity of the horizontal members. Whatever stability the Hart or plaintiff's towers may have is *independent of the louver construction.* On the other hand, by combining the horizontal framing member and the horizontal louver member in one unbroken member 11 in the Braun tower a very considerable degree of rigidity is attained which makes it possible to erect a considerable portion of the frame without the addition of any other system of bracing and contributing materially to the stability of the completed tower against horizontal loads." (Moser's italics.)

THE BRAUN TOWER CONSTITUTES WHAT IS KNOWN AS A "RESTRAINED BEAM" WHILE THE HART-PLAINTIFF'S TOWER FORMS WHAT IS KNOWN AS A "SIMPLE BEAM".

Thus Mr. Moser says (R. 94):

"In the Braun tower the louver is able to make a substantial contribution to the capacity of the main horizontal member 11 in carrying the *deck loads.* The *horizontal member 11 with its continuation beyond the point of support at the post 10 in the Braun tower constitutes what is known as a restrained beam, since the outwardly extending cantilever ends of the member 11 are anchored down by means of the louver member 13.*

"In the Hart and plaintiff's towers the horizontal member 13 ends at the points of support at the posts 10, forming what is known as a simple beam. The deck loads of these members are uniformly distributed throughout their

lengths in each case. For the purpose of comparison it will be assumed that the loads are equal for the two beams.

"The effect of the restraint in the case of the horizontal member 11 in the Braun tower is to reduce the bending stress in the member very materially. For equal loads the maximum bending stress in the horizontal bending stress in the horizontal member 11 of Braun *will be one-half of the maximum bending stress in the horizontal member 13 in the Hart or plaintiff's towers.*" (Moser's italics.)

BENDING STRESSES IN BRAUN ONE-HALF THOSE IN THE HART-PLAINTIFF CONSTRUCTION.

Thus, as pointed out by Mr. Moser (R. 95):

"The cross sectional dimensions of any structural member are largely determined by the stresses in that member. Since the maximum bending stress in the horizontal member 11 in the Braun tower is one-half of the maximum bending stress in the horizontal member 13 in the Hart and plaintiff's towers for equal loads, it follows that the *horizontal member 11 in the Braun tower may be made much lighter* than the horizontal member 13 in the Hart or plaintiff's towers with equal degrees of safety so far as supporting the deck load is concerned. The relative magnitudes of the stress in the members of the two towers for equal loads are shown graphically on diagram Moser D." (Moser's italics.)

On cross-examination Mr. Moser at R. 352 emphasizes this weakness in Hart-plaintiff's structure, due to "rotation":

"Because the members in that structure are so disposed that they have some structural stability. When I say 'stability,' I do not mean rigidity or brittleness, or anything of that sort. In this case it has very much less structural stability, Moser B, as there is very much less horizontal stability due to the fact that the connection between the horizontal deck member is insufficient to prevent rotation at its connection with the main vertical post."

Mr. Braun, as we have already pointed out, has made reference to this rotative action in plaintiff's structure and its absence in defendant's patented structure.

SCHMIDT PATENT No. 693,625, FEBRUARY 18, 1902.

This patent, in addition to its having been cited and withdrawn by the Patent Office Examiner in connection with the Braun application, is also considered by Mr. Moser, who says, in pointing out the differences between Schmidt and Braun (R. 196-197):

"My attention has also been called to the patent to Schmidt, No. 693,625, February 18, 1902. I have read and understand said patent.

"In the said Schmidt tower the lateral bracing of the tower is accomplished solely by inclining the main supporting posts B to form triangles having the foundation of the tower as bases. The horizontal deck supporting members b' extend slightly beyond the inclined posts B to support the upright louvers E-e, but this connection of the short extensions of the joists b' beyond the inclined posts B in no way has lateral bracing of the tower as in Braun.

> "The louver E-e, therefore, is not an integral feature of the Schmidt tower with respect to stability, but merely constitutes an added load on the supporting frame of the tower. Further, the horizontal deck member b′ acts independently of the louver and its action in carrying deck loads as shown accurately by the stress diagram for the horizontal deck member of the Hart-Plaintiff type shown on Diagram Moser D, in which the bending stresses are two times the bending stresses in Braun."

And yet in the face of all the foregoing uncontradicted testimony the trial Court in its Memorandum Opinion gives only brief consideration to defendant's patent in suit, saying (R. 386):

> "The defendant, however, counterclaims, claiming an infringement by virtue of the fact that the supporting members which hold up the various decks extend beyond the vertical members so as to support what are known as the 'louvers,' which are pieces of wood fastened to the outside, admitting the air and preventing the escape of the sprays of water.
>
> "The prior state of the art was such that in place of these transverse members being continuous and extending out to support the louvers, separate pieces were nailed or spiked on to the vertical members.
>
> *"In my opinion there is nothing novel in the device claimed by the defendant. It seems to have been anticipated by prior patents. Therefore, the injunction prayed for in the cross-bill will be denied."* (Italics ours.)

It is believed that the Court failed to appreciate not only the merit of the Braun invention but the

features and characteristics constituting the invention and embraced in the claims, and we submit the decree should be reversed in this one particular.

INVENTION.

To quote Judge Grosscup of the Circuit Court of Appeals, 7th Circuit, *Brown v. Crane Co.*, 133 Fed., 235, 237:

> "The constitutional basis of the patent laws is to promote the progress of the useful arts by giving to him who creates something new and useful a property in the thing created; and, as I look at it, the life germ of any creation is not so much the mechanical form in which it finally becomes embodied, as the flash of inspiration that, out of the darkness in which it lay concealed, first revealed its possibility. The possibility of a thing once seen, it is of no great moment that a ready mechanical means of bringing it into form is at hand; nor that the mechanical means used are similar to those employed before in the allied arts; nor that any mind would have seen the adaptability, mechanically, of what already existed to what was now, for the first time, about to exist. The true inquiry is, Did any one before, in creative imagination, actually see this new thing? Did it not require invention to discern, in the first instance, that the new thing was possible? Is it not invention to bring out of what to others seems chaos the form and feasibility of the new and useful thing?
>
> "Invention is not, in my jugdment, confined to the concrete mechanical form into which an

idea ultimately evolves. Invention is the idea itself, the burst of new thought, the discovery; and patentable invention is the conjunction of these with appropriate and efficient mechanical means. Confessedly, an old idea, carried out mechanically in a new form, is patentable invention. To my mind a new idea, carried out mechanically in an old form, ought equally be regarded as patentable invention. To hold otherwise is to dethrone the head and enthrone the hands—to leave genuine genius unrecompensed, while placing the inventor's crown on mechanical skill."

CONSIDERATIONS OF PRACTICABILITY CONTROLLING PATENTABILITY.

In *Kitchen v. Levison,* 188 Fed. 658, on Circuit Court of Appeals in sustaining a very simple invention on a manifolding book the Court said:

"But the device which is principally relied upon by the appellants is shown in the patent of H. G. and J. B. Barlow of April 28, 1884. This patent anticipates the appellee's patent in every feature except one. Instead of having their carbon sheet bound in the book as in the appellee's patent, it was loose. * * * Eight (18?) years after the issuance of the Barlow patent the appellee conceived the idea of binding the carbon sheets with the stubs of the record sheets of the book so that the carbon sheets would always be in their place. * * * The patent to James Bengough of January 28, 1896, shows a bound manifold sales book. * * *

"In addition to the presumption which arises from the issuance of the patent to the appellee,

there are to be taken into consideration as sustaining his patent, the further facts that when his invention was made, there was a want in the art for such a device, that in the prior art there were well recognized and admitted defects, and that the appellee's device eliminated those defects and went into general and successful use."

IT IS SHOWN BY THE EVIDENCE THAT THE BRAUN INVENTION HAS GONE INTO EXTENSIVE USE AND HAS, MOREOVER, BEEN COPIED BY PLAINTIFF.

"When although the patent was not a pioneer and the prior art discloses various apparatuses which employ from one to three of the elements of the combination claimed, though not in one combination, and where the elements as formerly known were modified so materially as that they would cooperate together as a whole in one combination to produce a new character of device in its class, held to be invention." *(Lamson Consolidated Store Service Co. v. Hillman,* 123 Fed. 416, 59 C. C. A. 510.)

As said by our Circuit Court of Appeals in *Morton v. Llewellyn et al.,* 164 Fed. 693:

"Apart from the presumption of novelty that always attends the grant of a patent, the law is that when it is shown that a patented device has gone into general use and has superseded prior devices having the same purpose, it is sufficient evidence of invention in a doubtful case. The Barbed Wire Patent, 143 U. S. 275, 292, 12 Sup. Ct. 443, 36 L. Ed. 154; Keystone Manufacturing Company v. Adams, 151 U. S. 139, 143, 14 Sup. Ct. 295, 38 L. Ed. 103; Irvine v. Hasselman, 97 Fed. 964, 38 C. C. A. 587; Wilkins Shoe Button

Co. v. Webb (C. C.), 89 Fed. 982; National Hollow B. B. Co. v. Interchangeable B. B. Co., 106 Fed. 693, 707, 45 C. C. A. 544."

See also:

Kitchen v. Levison, supra.

THE SIMPLICITY OF THE INVENTION IS NO GROUNDS FOR DENYING ITS PATENTABILITY.

Kitchen v. Levison, 188 Fed. 658, (C. C. A. 9th Cir.)

S. F. Cornice Co. v. Beyerle, 181 Fed. 692, (affirmed by C. C. A. 9th Cir. 195 Fed. 516);

Pelton Water Wheel Co. v. Doble, 186 Fed. 526 (affirmed by C. C. A. 9th Cir. 190 Fed. 761);

Expanded Metal Co. v. Bradford, 214 U. S. 366; 53 L. Ed. 1034.

The books are full of cases sustaining patents for their "simplicity"; for having been the one to "seek the end long sought," of having taken "the last step that wins."

Agawam Woolen Co. v. Jordan, 7 Wall. 583;

Whiteley v. Swayne, 7 Wall. 685;

DuBois v. Kirk, 158 U. S. 58;

Washburn & Moen Mfg. Co. v. Beat 'Em All Barbed Wire Co., 143 U. S. 275;

Babcock & Wilcox Co. v. North American Dredging Company, 155 Fed. 265;

Maunula v. Sunell, 155 Fed. 538;

U. S. Mitis Co. v. Midvale Steel Co., 135 Fed. 103.

See also *Diamond Tire Case,* 220 U. S. 428, where the Court said:

> "To what quality the utility of the tire may be due will bear further consideration, if for no other reason than the earnest contentions of counsel. Aside from those contentions and the ability by which they are supported, we might point to what it does as a demonstration of its difference from all that preceded it, that there is something in it, attribute or force, which did not exist before,—something which is the law of its organization and function, and raises it above a mere aggregation of elements to a patentable combination. And we may say, in passing, the elements of a combination may be all old. In making a combination the inventor has the whole field of mechanics to draw from. Leeds & Catlin Co. v. Victor Talking Co., 213 U. S. at page 318, 53 L. Ed. 812, 29 Sup. Ct. Rep. 495."

SIMPLE INVENTIONS.

See the *Eye Shade case: Mahoney v. Malcom,* 143 Fed. 124 (C. C. A. 7th Circuit), when Judge Baker said:

> "The patent is for an eye shade made of two pieces of flat, thin, light, flexible material, such as celluloid. * * *
>
> "Twelve earlier patents are shown in the record, ranging in date from 1876 to 1899. Ten

of them, and they cover the whole period, are for various modifications or improvements of the old, stiff, curved visor. * * * After the publication of appellant's patent 26 years later, it was easy enough to see that if Platt's rigidly curved head band were turned up at right angles to the horns of the rigidly curved visor (a position that was never intended in use or not in use) and then the whole were hammered flat, the result might serve as a pattern for cutting from flexible material something that would resemble appellant's eye shade. But Platt did not do it; neither did any of the other eleven inventors who during those years were animated with the hope of capturing the trade by producing an eye shade that was better for the manufacturer, for the merchant, and for the wearer. * * *

"We think there was invention of the 'happy thought' kind, as explained in Williams v. American String-Wrapper Co., 86 Fed. 641, 30 C. C. A. 318, and in Eastman v. Mayor of New York (C. C. A.), 134 Fed. 844. As we said in Regent Mfg. Co. v. Penn Electrical Co., 121 Fed. 80, 57 C. C. A. 334:

> " 'The device seems exceedingly simple; but its very simplicity, in such an old field, should be a warning against a too ready acceptance of the ex post facto wisdom of the bystander.'

"The decree is reversed, with the direction to enter a decree in appellant's favor for an injunction and an accounting."

ENVELOPE CASE.

As said by your Honors in the case of *Heinz v. Cohn,* 207 Fed. 547, 559-60, on a simple invention for the so-called "Window Envelope":

"On the other hand, many instances may be found where very simple concepts have been declared to be the product of inventive genius. Two instances which are fair illustrations are referred to in Potts v. Creager, supra. One was respecting the application to telegraph instruments of a torsional spring such as had been previously used in clocks, doors, and other articles of domestic furniture (Western Electric Company v. La Rue, 139 U. S. 601, 11 Sup. Ct. 670, 35 L. Ed. 294) and the other the substitution of the use of anthracite coal for bituminous in smelting iron ore, inasmuch as it produced a better article of iron at less expense (Crane v. Price, Webster's Pat. Cas. 409). Thus it is that simplicity of device is not necessarily the test of lack of invention or patentability. When a thing has succeeded it often seems very plain and simple and the wonder is that its suggestion had not come earlier; but the fact remains that no one has ever thought of it, whether skilled or not, and yet its utility is at once recognized when brought to public attention. This of itself is evidence of invention. As is said by Mr. Justice Bradley in Loom Co. v. Higgins, 105 U. S. 580, 591 (26 L. Ed. 1177):

> "'It may be laid down as a general rule, though perhaps not an invariable one, that if a new combination and arrangement of known elements produce a new and beneficial result, never attained before, it is evidence of invention.'

"Beyond this, the presumption of novelty attending the issuance of letters patent, the general and extensive use to which the new device is applied, and further the use persisted in by one infringing the device are all evidence of the product of inventive faculty and genius. Dia-

mond Rubber Co. v. Consol. Rubber Tire Co., 220 U. S. 428, 31 Sup. Ct. 444, 55 L. Ed. 527; A. R. Milner Seating Co. v. Yesbera, 133 Fed. 916, 67 C. C. A. 210; Buchanan v. Perkins Electric Switch Mfg. Co., 135 Fed. 90, 94, 67 C. C. A. 564; Morton v. Llewellyn et al., 164 Fed. 693, 90 C. C. A. 514."

MAKING IN ONE PIECE INSTEAD OF TWO HELD INVENTION.

The collar button case: Krementz v. Cottle Co., 148 U. S. 556; 37 L. Ed. 559.

The Court in finding that the patented one-piece collar button was better, stronger and less liable to break than the old several piece buttons found invention involved and said:

> "It is not easy to draw a line that separates the ordinary skill of a mechanic, versed in his art, from the exercise of patentable invention, and the difficulty is specially great in the mechanic arts, where the successive steps in improvements are numerous, and where the changes and modifications are introduced by practical mechanics. In the present instance, however, we find a new and useful article, with obvious advantages over previous structures of the kind. A button formed from a single sheet of metal, free from sutures, of a convenient shape, and uniting strength with lightness, would seem to come fairly within the meaning of the patent laws. The tools to be used in making the button are not described, but they are not claimed to be new. And the method or process of manufacture is described with suffi-

cient particularity to enable anyone skilled in the art to follow it. Buttons made of several pieces are liable to break at the soldered joints, and it is stated by an experienced witness that the metal by the process of soldering becomes soft and liable to bend. The different pieces are set together by hand, and are not always uniform or put together truly."

Continuing the Court contrasted the conduct of the parties, as may be done here, in showing invention. To quote:

"The view of the Court below, that Krementz's step in the art was one obvious to any skilled mechanic, is negatived by the conduct of Cottle, the president of the defendant company. He was himself a patentee under letters granted April 16, 1878, for an improvement in the construction of collar and sleeve buttons, and put in evidence in this case. In his specification he speaks of the disadvantages of what he calls 'the common practice to make the head, back, and post of collar and sleeve buttons separate, and to unite them by solder.'

"His improvement was to form a button of two pieces, the post and base forming one piece, and then soldering to the post the head of the button as the other piece. Yet, skilled as he was, and with his attention specially turned to the subject, he failed to see, what Krementz afterwards saw, that a button might be made of one continuous sheet of metal, wholly dispensing with solder, of an improved shape, of increased strength, and requiring less material."

Commercial success was also a factor to consider, the Court saying:

"It was also made to appear that the advantages of the new button were at once recognized by the trade and by the public, and that very large quantities have been sold.

"The argument drawn from the commercial success of a patented article is not always to be relied on. Other causes, such as the enterprise of the vendors, and the resort to lavish expenditures in advertising, may co-operate to promote a large marketable demand. Yet as was well said by Mr. Justice Brown, in the case of Consolidated Brake Shoe Co. v. Detroit Steel & S. Co. 47 Fed. Rep. 894, 'when the other facts in the case leave the question of invention in doubt, the fact that the device has gone into general use and has displaced other devices which had previously been employed for analogous uses, is sufficient to turn the scale in favor of the existence of invention.'

"Webster Loom Co. v. Higgins, 105 U. S. 580 (26, 1177), was a case where the patented device consisted in a slight modification of existing mechanism, and it was contended that this slight change did not constitute a patentable invention; but this view did not prevail, the court saying:

" 'It is further argued, however, that supposing the devices to be sufficiently described, they do not show any invention, and that the combination set forth in the fifth claim is a mere aggregation of old devices already well known, and therefore it is not patentable. This argument would be sound if the combination claimed by Webster was an obvious one for attaining the advantages proposed, one which would occur to any mechanic skilled in the art; but it is plain from the evidence, and from the very fact that it was not sooner adopted and used, that it did not for years occur in this light to even the most

skilled persons. It may have been under their very eyes; they may almost be said to have stumbled over it but they certainly failed to see it, to estimate its value, and to bring it into notice. Who was the first to see it, to understand its value, to give it shape and form, to bring it into notice and urge its adoption, is a question to which we shall shortly give our attention.

" 'At this point we are constrained to say that we cannot yield our assent to the argument that the combination of the different parts or elements for attaining the object in view was so obvious as to merit no title to invention. Now that it has succeeded it may seem very plain to anyone that he could have done it as well. This is often the case with inventions of the greatest merit.' * * *

"We think, therefore, we are within the principle and reasoning of these cases in reversing the decree of the Court below dismissing the bill and in remanding the record, with directions to proceed in the case in conformity with this opinion."

CONDUCT OF PLAINTIFF IN ADOPTING THE PATENTED BRAUN TOWER IS PROOF OF INVENTION.

The presumption of novelty arising from the grant of the patent and the fact that the defendants think so well of the device that they use it themselves, has frequently been assigned by the Courts as the principal reasons for holding an invention patentable.

"The fact that a patentee, by his device, produced results which intelligent and ingenious

inventors in the same art had sought for years without avail, and that such device went into immediate and extensive public use, and was furthermore used by the defendant, tends strongly to show that it was the result of inventive faculties." *(Dowagiac Mfg. Co. v. Superior Drill Co.; P. P. Mast & Co. v. Same,* 115 Fed. 88, 53 C. C. A. 36 (6th Cir.).)

"Where, upon suit for infringement, alleged anticipating constructions are set up by the defendant, the fact that he appropriated the complainant's production as to the foundation of his own business and had been very successful, is persuasive evidence of the advantages of the complainant's structure over the alleged anticipatory constructions." *(A. R. Milner Seating Co. v. Yesbera,* 133 Fed. 916 (6th Cir.).)

"The questions mainly argued relate to whether or not invention is present, particularly in view of the prior art. That utility is present, it is said, is shown by the *prima facie* presumption resulting from the issue of the patent and from substantial sales and use. The evidence tends to show that 1,000 a month are being made and sold. Whether these sales are evidence of utility in the device, *or senility, or some form of arrested mental development in the buyer,* may well be open to question. The defendant, however, has made a substantial copy of this device, and is not, therefore, in a position to deny its patentable utility; and for this reason, coupled with the *prima facie* presumption, it must be held that the patent is not void for want of utility. See Faultless Rubber Co. v. Star Rubber Co. (6 C. C. A.) 202 Fed. 927, 930, 121 C. C A. 285; Diamond Rubber Co. v. Consolidated Tire Co, 220 U. S. 428, 440, 31 Sup. Ct. 444, 55 L. Ed. 527." (Italics ours.)

(*Vaco Grip Co. v. Sandy MacGregor Co.*, 292 F. 249 (251).

In *Hobbs v. Beach,* 180 U. S. 383, the Supreme Court said:

> "If there be one central controlling purpose deducible from all these decisions, and many more that might be quoted, it is the steadfast determination of the Court to protect and reward the man who has done something which has actually advanced the condition of mankind, something by which the work of the world is done better and more expeditiously than it was before."

"In the law of patents, it is the last step that wins," says the Supreme Court:

Barbed Wire Case.

PROOF OF INFRINGEMENT BY PLAINTIFF AS TO PASADENA ICE COMPANY.

Mr. Braun says (R. 369) that he is familiar with the Pasadena Ice construction and saw it during its erection and between January 16, 1923, when the patent issued and the time when the counterclaim was filed on February 20, 1923.

PLAINTIFF'S INFRINGING TOWER SHOWN IN PHOTOGRAPHS EXHIBIT "M M" (R. 281) AND BLUE PRINT EXHIBIT "N N" (R. 281).

As to the Pasadena Ice Company's infringing structure Braun says (R. 370):

"A. The structure is very similar to the second Braun patent. The deck supports extend beyond the posts and receive the louver boards, in a manner exactly similar to that shown on the model Exhibit 'D'.

"Q. Do these cross-members appear in the photographs before you, of which there are six of the Pasadena Ice Company?

"A. Yes, they appear in all six photographs.

"Q. And the louvers and their supporting connections, are they sufficiently clear for ordinary understanding?

"A. Yes. One photograph shows the supporting connection with the louver board, and the other photographs show the supporting connections with the louver boards laid in place."

THE DRAWING OF THE TOWER IN EVIDENCE MADE UNDER THE DIRECTION OF THE WITNESS SHATTUCK (DEFENDANT'S EXHIBIT "N N"—R. 281).

There has been no denial whatsoever that if the Braun patent is valid it is infringed.

Mr. Shattuck testifies (R. 269) in corroboration of Braun:

"I saw the plaintiff's name-plate on the tower. I saw the contract, and the date of the contract on that particular tower." (Italics ours.)

(R. 270):

"The contract was in the possession of the owners of the tower.

* * * * * * *

"My statement was based on the fact that I saw the contract and saw the name-plate on the tower." (Italics ours.)

"The COURT. The contract between the owner and the plaintiff? A. Yes.

"Q. Did the contract include the work of erecting the tower?

"A. I was not allowed to read the contract."

(R. 271):

"Mr. TOWNSEND. We will call on the plaintiff to produce that contract which they have with the Pasadena Ice Company."

This request was not complied with.

PLAINTIFF'S COUNSEL ADMITS LIABILITY OF THE COOLING TOWER COMPANY.

Thus at (R. 273):

"Mr. FOULDS. * * * He (Fleming) sends on the data to us and we send a contract, which may be filled out in his name and may be filled out in the purchaser's name, that is, the user's name, and the man here in California, or the purchaser or customer may get the wood; in other words, we give them the plan for the tower.

"The COURT. In effect, you constitute them a licensee under your patent?

"Mr. FOULDS. That is it.

"The COURT. All right. If you license them, that is, you license the user to contract that tower for his own use, is the company any less an infringer than if it came out and actually constructed the thing?

"Mr. FOULDS. It would depend on how they constructed that tower. If they did put in some tower that was not in accordance with the plans, the company would not be.

"The COURT. If they went ahead and added something that was not in accordance with the plans, that would be right. I see your point there."

PHOTOGRAPHS ARE IN EVIDENCE SHOWING THE INFRINGING TOWER AS DEFENDANT'S EXHIBIT "M M" (R. 281).

Concerning the notations on the back of the photographs witness Shattuck says (R. 277):

"The patent numbers on the back of these photographs which I made notes of and put on on my return to the office the day I climbed on the tower.

* * * * * * *

"Q. And the name-plate was the name-plate of the Cooling Tower Company? A. Yes.

"The COURT. Are these the numbers of the patents owned by your Company?

"Mr. FOULDS. Yes. That seems to be a copy of the name-plate that we use."

Witness then describes the construction of the Pasadena Ice Company's tower as comprising transverse deck-supporting members of wood, extending beyond the vertical posts, which were also of wood and in one continuous piece.

The photographs show that these transverse deck-supporting extensions, which are integral with the deck supports themselves, connected to the tops of the louvers and the louvers in turn are connected at their bottoms to the wood uprights of the tower in such fashion as to take care of the strains and

stresses, giving reinforcement to the tower, all as provided for by the Braun patent.

Concerning this the witness Shattuck says (R. 278):

> "It would contribute in the same manner as the construction of the panels and transverse members in the Braun tower."

Continuing, witness Shattuck says (R. 279-280):

> "By *extending the transverse members outwardly beyond the column and the upper part of the louver being hung from that transverse member* and extended down at an angle to the next transverse member close to the column, *a substantial truss is formed, which tends to make the tower in its entirety more rigid, both laterally and longitudinally.* In a tower similar to one exhibited by Exhibit 'G,' the transverse members do not extend beyond the column, and the louvers and supporting members are purely a dead load on the tower, holding the louver there for functioning, the only function being to prevent the wind from carrying the water out." (Italics ours.)

BRAUN PATENT MARKINGS.

Braun says (R. 329-330):

> "We have at all times put name-plates on our towers, metal name-plates, enamel-covered, bearing the name of the company, the title, 'Braun Atmospheric Water Cooling Tower' or 'Atmospheric Cooling Tower,' and the dates of all patents which we had on cooling towers at the time when the name-plates were attached to the various towers. Furthermore, the words,

'Other patents pending,' and the address of the company."

SUBSTANTIAL DIFFERENCES BETWEEN THE SHELL CASE AND THE PRESENT CASE.

"Mr. Townsend: If I may interrupt a minute, this contract that Mr. Shattuck refers to is a contract by the plaintiff Cooling Tower Company and the Pasadena Ice Company, the user. Mr. N. O. Fleming is the representative—I don't know what they want to call him—of the Cooling Tower Company, and as seen from the correspondence Mr. Lake, the attorney, refers the Fleming matter right to the principals in New York. Now, in the Shell case, the contract was between the Cooling Tower Company, or its predecessor, Mitchell-Tappen Co., and Mr. Braun, and the Braun Company's contract was with the Shell Company. So the work of the Shell Company was not the work of the plaintiff. It was Mr. Braun's work. The work with the Pasadena Ice Company, which we complain of, is direct work by contract with the plaintiff. The two cases are not parallel."

We submit that the trial Court should have found the Braun patent valid and impinged.

DEFENDANT'S COUNTER-CLAIM FOR UNFAIR COMPETITION.

Paragraph XIV of defendant's answer and counter-claim briefly states the foundation for the complaint of unfair trade against the plaintiff and is as follows:

"XIV.

"That the plaintiff has for several years last past made improper and unlawful use of its alleged ownership of various patents on cooling towers, including the patent in suit, and more recently, as defendant is informed and believes, made improper and unlawful use of the fact of bringing this suit against this defendant, all with the unlawful purpose of harassing, annoying, injuring and damaging plaintiff, its agents and customers, in its and their legitimate business aforesaid."

THE EQUITIES OF THE CASE.

This counter-claim, like the others, finds authority in Equity Rule 30.

The answer of the defendant sets up the unfair practices of the plaintiff which have extended over a period of several years and in themselves are sufficient to show that plaintiff has not come into equity with clean hands.

The "Reply of Plaintiff" to defendant's counter-claim admits the wrong-doing charged to it but seeks to excuse its acts by pleading their *legal effect.*

The evidence of Mr. Braun shows the harmful character of these acts, aggravated as they have been by the pernicious activity of Mr. Fleming, the Pacific Coast representative of plaintiff.

PROOFS ON BEHALF OF DEFENDANT'S COUNTER-CLAIM AS TO UNFAIR TRADE.

ADMISSIONS OF PLAINTIFF IN ITS REPLY TO DEFENDANT'S COUNTER-CLAIM.

Page R. 45:

> " * * * it admits that it has alleged that the alleged towers of the defendant were simulations of the designs and towers of plaintiff and its predecessor and it admits that it has, in the course of business, alleged that defendant was infringing certain patent rights of the plaintiff."

However, plaintiff fails to state what patents and what claims and just wherein infringement lays in its opinion.

Page R. 45-46:

> " * * * it admits and alleges that various users of cooling towers asserted by the defendant to be its customers, were the customers of the plaintiff" * * *

The Shell Company, mentioned in the Union Oil Company and Standard Oil Company letters of July, 1918, was never, as far as shown or known, a customer of plaintiff.

Page R. 46:

> " * * * it admits that it has threatened to institute suits against users of cooling towers and other devices which infringe the patent rights of the plaintiff" * * *

What "other devices" and what "patent rights," besides cooling towers, means defendant's business is by no means confined to cooling towers.

Page R. 46:

> " * * * plaintiff admits that on or about the first day of July, 1918, it sent a letter to Union Oil Company, a fragment of which is substantially quoted in said paragraph, but it denies that the said Union Oil Company was a customer of defendant and prays leave to produce the whole of the said letter before this Court," * * *

This letter is scandalously untrue. The Union Oil Company *was* a customer of defendant, C. F. Braun & Company. The Shell Co. was *not* a customer of *plaintiff*.

Page R. 47-48:

> " * * * defendant alleges that the said *Mitchell-Tappen Company, through the said defendant, did,* in or about the year 1915, *sell two Cooling Towers to the said Shell Company"* * * * (Italics ours.)

This is a manifestly untrue statement, as seen by the correspondence introduced in evidence in the New York depositions, for it was Braun and not the Mitchell-Tappen Company that *sold* to the Shell Company.

Page R. 48:

> " * * * it *admits* that on or about *July 11, 1918, it wrote a letter to Standard Oil Company,* a part of which is quoted substantially in the said paragraph," * * * (Italics ours.)

Mr. Braun says he has never been able to do business with the Standard Oil Company since, though

with the Shell Company he has done as much as three hundred thousand ($300,000) dollars worth of business in a single year.

Page R. 48:

The correspondence passing between Braun's attorney and Mr. Foulds, on behalf of plaintiff, is admitted to be as set out in the answer and justification for the unlawful acts sought by this next admission.

Page R. 48-49:

> " * * * it *admits that no suit* was brought at that time *for the reason* that defendant, though requested so to do, refused to give plaintiff information as to its acts *and plaintiff was unable to obtain the definite information relating thereto,*" * * * (Italics ours.)

This shows the *bad faith* of plaintiff in lacking any foundation in fact for its random accusations against defendant. Such acts are entirely outside the pale of legal authority.

ADMISSIONS BY ATTEMPTED DENIALS.

Page R. 49:

> "* * * it denies that it did, in any manner, *unlawfully* harass, annoy or attempt to intimidate any customers or prospective customers of defendant herein," * * * (Italics ours.)

Page R. 49:

"* * * plaintiff denies that it had knowledge that a *suit, then brought against defendant,* would settle any legal or equitable questions of difference" * * * (Italics ours.)

Page R. 49:

"* * * it believed at that time and still *believes* that the defendant would, by unlawful and dilatory tactics, *attempt to conceal the true facts* and would by reason of the distance separating the parties geographically," * * * (Italics ours.)

Quite evidently "dilatory" tactics have not been the weapon of the *defense.*

Page R. 50:

"* * * *alleges that it has endeavored to prevent the defendant* from unlawfully and wrongfully appropriating the designs and business of the plaintiff" * * * (Italics ours.)

Page R. 50:

"all of its statements or representations in the premises have been and are true" * * * (Italics ours.)

Page R. 50:

"* * * denies that it has, in any manner, *unlawfully* threatened any persons, either customers, prospective customers, or agents of defendant or otherwise, *except such proper warning notices as may have been lawfully sent out in connection with the prosecution of the plaintiff's lawful business"* * * * (Italics ours.)

This is an ineffectual plea in confession and avoidance.

Page R. 50:

> "* * * it admits that it has alleged and does now allege that the manufacture or sale of the *pretended cooling towers* of the defendant constituted and do constitute a violation of the patent rights of the plaintiff," * * * (Italics ours.)

It has failed, however, to state what patents or claims or patent rights were thought to be invaded.

Page R. 51:

> "* * * *alleges that it has given the same as full and complete publicity as was lawful and proper in connection with the prosecution of its business"* * * * (Italics ours.)

Page R. 51:

> "* * * it denies that it has, in any manner, *unlawfully* sent out letters, communications or notices relative to its rights under said Letters Patent and alleges that all of the letters, communications and notices issued by it, have been lawful and proper" * * * (Italics ours.)

Plaintiff is pleading a legal conclusion. Manifestly, if all letters sent out are like the Union Oil Company letter, then plaintiff stands convicted out of its own mouth.

Page R. 51-52:

> "* * * It admits and alleges the fact to be that it verily *believes that this Court will grant injunctions* restraining the unlawful use, manufacture or sale of infringements of its patents,

and *it admits that it has so stated to users of cooling towers and devices*" * * * (Italics ours.)

This is an assumption, when given publicity, that has warranted the restraining hand of the Court.

Page R. 52:

" * * * and it denies that it has, in any manner, sought to *improperly or unlawfully intimidate any customers of the defendant*" * * * (Italics ours.)

It thus admits *intimidation* and merely pleads a legal conclusion.

Page R. 52:

" * * * and it denies that it has made any *unlawful* or *improper* threats" * * * (Italics ours.)

Page R. 52:

" * * * or that it has ever threatened or intimated an intention to prosecute, *wholesale, indiscriminate or improper* litigation in connection with its said patents or otherwise" * * * (Italics ours.)

Page R. 52:

" * * * it denies that it has, in any manner, *improperly injured* or *damaged* the defendant's legitimate business, and denies that it is in any manner, causing defendant any loss of any nature, *except that it is endeavoring to obtain* from the defendant the profits unlawfully obtained by it from the manufacture, use and sale of the plaintiff's devices" * * * (Italics ours.)

Page R. 52-53:

" * * * denies that the plaintiff's acts will constitute or cause any loss or damage to the defendant *improperly,* but alleges the fact to be that the *defendant will be, as a result thereof, merely deprived* of the unlawful, improper and illegal gains made by it from the infringement of the plaintiff's patent and the infringements of plaintiff's rights." * * * (Italics ours.)

Page R. 53:

" * * * it denies that it has *improperly* advertised or made use of the facts of this suit" * * * * (Italics ours.)

Page R. 53:

"* * * alleges that it has, in good faith, and fairly and with proper and reasonable cause, done all acts in the premises and denies that it has, in any manner, *improperly harassed* or injured or that it is causing or has caused any injury *unlawfully* to the defendant" * * * (Italics ours.)

Page R. 54:

" * * * that it has done any act or thing *tending to destroy* the business of the defendant or its reputation or good will *unlawfully,"* * * * * (Italics ours.)

Page R. 54:

" * * * alleges that *any injury or damage to the reputation or good will of the defendant will result solely from the defendant's own unlawful,* malicious and fraudulent acts" * * * (Italics ours.)

Page R. 54:

"* * * it denies that it has, in any manner, attempted to *unlawfully obtain a monopoly to which it is not rightfully and lawfully entitled*" * * * (Italics ours.)

LEGAL EFFECT OF ADMISSIONS.

The admissions of plaintiff in its reply and its denial of the legal effect of the allegations in the answer operate as an admission of the material facts on which defendant's prayer for relief rests.

Equity Rule 30 provides that the answer must specifically admit, deny or explain the *facts* upon which the plaintiff relies. It is elementary that the admissions of a defendant are binding upon him.

Facts, not conclusions of law, should be denied, since denials of conclusions raise no issues.

> "It is not sufficient merely to deny the pleading or a paragraph thereof; the allegations contained in it must be denied." (31 *Cyc.* 193-194.)

> "The answer must meet the substance and not merely the form of the charge; otherwise it will be deemed evasive and for that reason bad. It must be direct and unequivocal, and must clearly identify the allegations sought to be denied. * * * Admissions made in connection with denials limit their effect;" * * * (31 *Cyc.* 194.)

> "But merely giving a different version of the matter from that contained in the complaint is not sufficient to put the allegations of the complaint in issue." (31 *Cyc.* 194-195.)

And then, again:

"The denial must be direct; it is not sufficient to put facts in issue to admit all facts except those specified." (31 *Cyc.* 198.)

NEGATIVE PREGNANT.

"A negative pregnant is generally held not to raise a material issue, and the consequences are the same as when, for any other reason, an answer admits plaintiff's allegations without denying or avoiding them." (31 *Cyc.* 203.)

"*Denials of Allegations with Qualifying Circumstances.* Where a fact is alleged with qualifying or modifying language, and the words of the allegation are literally denied, it is held that the qualifying circumstances alone are denied while the fact itself is admitted. Thus, where the declaration or complaint alleges facts as taking place at a certain time, or in a certain place, or alleges that property or demands are of a certain value or amount, denials of these facts so qualified as to time, place, value, or amount are negatives pregnant, and are deemed to put in issue only the qualifying circumstances. To deny that an act took place at a certain place or time is to admit that it occurred at some different place or time, and to deny that property or demands are of a certain amount or value is to admit them in a different amount or value. The mere addition to the denial of the words 'as alleged' has been held to create a negative pregnant." (31 *Cyc.* 204-205.)

"Matters of aggravation must be denied or they will be deemed admitted." (31 *Cyc.* 210.)

If it is held that the pleading of defendant is in confession and avoidance, then

> "A plea in confession and avoidance or of new matter in the nature of such a plea does not deny the allegations of the declaration, but in legal contemplation confesses them and seeks to avoid them by new affirmative matter." (31 *Cyc.* 215.)

> "AVOIDANCE. A plea in confession and avoidance or, as it is frequently called, a special plea, must set up matter which, if true, affords a full and complete answer to the action. A plea which confesses without avoiding is bad, and if the truth of the plea may be admitted and the action is still maintainable, the plea is bad. The avoidance must be as broad as the confession. The general rule is that affirmative matter must go to avoid the cause of action and not simply to the amount, or in mitigation of damages, although in some jurisdictions it is held that under the codes matter in mitigation may be set up as a partial defense. Matter in avoidance should consist of facts, not legal conclusions, nor matters of evidence." (31 *Cyc.* 217-218.)

UNFAIR COMPETITION OF PLAINTIFF.

Braun says (R. 313-314):

> "Mr. TOWNSEND. Q. Have the annoyances that you complain of arising in 1922 abated in any degree since my letter to Mr. Fleming, which is in evidence, written last October, 1922?
>
> "A. Yes.
>
> "Mr. FOULDS. I object to the question on the ground that I understand that is along the same lines counsel said he would not press.

"The COURT. No; he apparently knows about it himself. I would think, Mr. Foulds, that if counsel for the defendant wrote a letter to a man who was selling your towers in this territory and that was followed with a communication that that had been sent on to your company, that that would be sufficient to give rise to a reasonable inference that that communication from Mr. Townsend to Mr. Fleming was communicated to your company.

* * * * * * *

"Mr. TOWNSEND. Q. Has there been a cessation of complaints from customers since that time? A. Yes."

(R. 315):

"Q. Are you able to state what financial damage, if any, your company has suffered by reason of the admitted acts and representations of plaintiff?"

(Objection; overruled.)

(R. 316):

"A. I can in certain instances estimate the amount of damage sustained by us by reason of the interference with the plaintiff."

(R. 316-317):

"In the case of the Standard Oil Company, we had enjoyed a substantial business with the Standard Oil Company up to the time we were approached by the Standard Oil Company and shown a copy of a letter received by the Standard Oil Company from the plaintiff in this case; we had had not only cooling tower business but other business. Following that time we have never received any substantial business from the Standard Oil Company either in cooling towers or other apparatus, with the possible

exception of some very small spare parts which they would be obliged to buy from us, being unable to obtain them from others.

"In the case of the Standard Oil Company, I sought their cooling tower business and other business, and have not been successful in securing it. I could estimate the amount of damage by comparison with the volume of business which we have received from, for instance, the Shell Company, a large oil company operating in California, in one year alone, we received from the Shell Company—."

(R. 317-318):

"The Standard Oil refineries are very difficult of access, and I have no knowledge regarding what they have purchased."

(R. 320-321):

"Mr. TOWNSEND: Q. Have you any specific instance such as that spoken of where you had solicited the business and were unable to get it on the basis represented?

"A. I have, in the case of the Union Oil Company of California. The Union Oil Company had been purchasers of our towers, and we quoted the Union Oil Company on another cooling tower, and I was informed by the then superintendent of the gas department of the Union Oil Company—"

(R. 322):

"The COURT: Where does that letter occur in your answer?

"Mr. TOWNSEND: Paragraph 17, page 13, and the admission appears in paragraph 5 of page 3 of plaintiff's reply to the counter-claim.

"The COURT: Oh, yes. Is there any question about that, Mr. Foulds?

"Mr. FOULDS: We admit that letter."

In answer to plaintiff's objection that defendant's counter-claim required defendant to plead additional jurisdictional facts the Court rightly said (R. 324):

"The COURT. I do not think the amendment is necessary. In paragraph 16 it is alleged that the amount of lost sales is in excess of $50,000.

"Mr. FOULDS. Yes."

(R. 325):

"The COURT: No; the trouble with that is, the plaintiff does not rely entirely or alone upon the jurisdiction of this court, but it does allege the diversity of citizenship. It alleges the plaintiff to be a citizen of New York and the defendant a citizen of California. Now, the rule is well settled that where there is a diversity of citizenship alleged in the complaint that it need not be repeated in the cross-complaint where new parties are brought in. The objection is overruled.

* * * * * * *

"I was informed by W. R. Cowan, of the Gas Division, that they had purchased a tower upon which we had bid, from the Cooling Tower Company of New York."

(R. 326):

"A. Mr. Cowan gave me specific reasons for not giving us this contract.

"Mr. TOWNSEND: Q. Did those reasons pertain to any acts or declarations of the plaintiff?

"A. They pertained to the acts of N. O. Fleming, the representative of the plaintiff."
(Objection.)

* * * * * * *

"The COURT: He has been connected up here by documents, Mr. Foulds, which were followed by actions, so I think that he is sufficiently connected up with the plaintiff."

(R. 327):

"Mr. TOWNSEND: Q. Are you able to state the value of the tower or towers that you would otherwise reasonably have expected to sell the Union Oil Company?"
(Objection overruled.)

"A. I know of two towers sold by the Cooling Tower Company of New York to the Union Oil Company, which, I believe, had the Union Oil Company ordered our towers, would have amounted to about $15,000.
"The COURT: For both?
"A. The two together."

(R. 327-328):

"The COURT: Yes, but he testified to more than that. He says that the Union Oil Company people told him the reason they did not give him this business was because of the action of Mr. Fleming. The fair inference from that testimony would be that it was along the line of the letter."

This being a matter dependent on the credibility of the witness and the Court observing the witness and accepting him as honest and fair is unassailable under *Adamson v. Gilliland,* 242 U. S. 350.

MALICIOUS DESTRUCTION OF DEFENDANT'S BUSINESS BY THREATS OF SUIT AND INTIMIDATION OF CUSTOMERS.

The owner of a patent may not in the guise of protection of his patent rights destroy the legitimate trade of, nor harass and annoy a competitor, nor terrorize the trade with letters nor with advertisements, and then not promptly vindicate his asserted rights.

As said in *Atlas Underwear Co. v. Cooper Underwear Co.,* 210 Fed. 347 (at 350):

> "These cases, while all recognizing the elementary principle that a patentee has a right to protect his interest under a patent by notifying the world in general, or any person in particular, of his rights—cautioning against infringement thereof—recognize and enforce with equal vigor the principle that a patentee cannot, under cover of his patent and his incidental rights, harass and annoy his competitors, seek to destroy their trade, and thereby accomplish results legitimately to be accomplished through the orderly processes of infringement suits. He may not terrorize the trade by calling attention to his rights, and seek to enforce such rights through a succession of threats which he never attempts to effectuate."

Electric Renovator Mfg. Co. v. Vacuum Cleaner Co., 189 Fed. 754, 757:

> "The bill further avers that by reason of the threats and notices the complainant has been damaged in its business and has lost customers."
>
> "Inasmuch as the allegations of the bill were supported by affidavits, the court upon proof of

> notice to the defendants of the application for a preliminary injunction, being satisfied that unfair business methods had been resorted to and were being resorted to by the defendants, * * * issued an order 'restraining the defendants, and each of them, their officers, agents and employes from further in any manner issuing or making any notice, warning, threat or statement charging the complainant, its officers, agents or employes, or any one engaged in selling or using vacuum cleaning apparatus manufactured by complainant, with infringement.' "

Farquhar Co. v. National Harrow Co., 102 Fed. 714, is a case where defendant sent out warning letters for several years, the same as in this case, without bringing suit to establish the validity of its patents. To which the Circuit Court of Appeals, Fifth Circuit, says (at 715):

> "Where notices are given or circulars distributed in good faith to warn against infringement, no wrong whatever is committed; but where, as is here averred, they are not made or issued with such intent, but in bad faith, and solely for the purpose of destroying the business of another, a very different case is presented. In such a case property rights are fraudulently assailed, and a court of chancery, whose interposition is invoked for their protection, should not refuse to accord it. Emack v. Kane (C. C.) 34 Fed. 46; Kelley v. Manufacturing Co. (C C.) 44 Fed. 23; 10 L. R. A. 686; Casey v. Union (C. C.) 45 Fed. 135, 12 L. R. A. 193; Toledo, A. A. & N. M. Ry. Co. v. Pennsylvania Co. (C. C.) 54 Fed. 730, 19 L. R. A. 387; Computing Scale Co. v. National Computing Scale Co. (C. C.) 79 Fed. 962; Lewin v. Light Co. (C. C.) 81 Fed. 904; Railway Co. v. McConnell (C. C.) 82 Fed. 65;

Adriance, Platt & Co. v. National Harrow Co. (C. C.) 98 Fed. 118; In re Debs."

It should be borne in mind that these charges of infringement and threats of suit have been sent out by plaintiff over a period of several years; that the acts of Braun & Co. have been open and in good faith; that defendant has expressly called upon plaintiff to vindicate its alleged rights in the Courts; that plaintiff failed to attempt to enforce its alleged rights until forced to bring this present suit; continuing meanwhile to send threatening letters and to make slanderous statements to the customers of defendant.

As said by Circuit Court of Appeals for the Second Circuit in Adriance, *Platt & Co. v. National Harrow Co.,* 121 Fed. 827 (at 830):

> "The question whether the patent owner is acting in good faith in advertising his claims to the manufacturer's customers by circulars or letters can seldom be determined from the contents of the communication alone, and, like all questions of intent, must generally be determined by the extrinsic facts. It is always easy to frame such circulars in guarded terms, which will not commit the sender to any definite libelous charges, omitting specific statements of fact, and subtituting statements of opinion; and when they are sent for an illegitimate purpose they are likely to be so framed. * * *
>
> "As, ordinarily, the patent owner would be prompt and zealous to assert his claims, if he halts and purposely procrastinates, and attempts to effect by threats and manifestoes that which he can compel by the strong hand of the law, a strong inference arises that he has

> not any real confidence in his pretensions. This inference becomes irresistible if he refuses to bring suit during a considerable period of time when the alleged infringement is open, notorious, and defiant, and so extensive as to threaten destruction to his alleged exclusive rights. * * * In view of its failure to bring an infringement action, under circumstances which made an action practically compulsory, the defendant cannot shelter itself behind the theory that its circulars and letters were merely legitimate notices of its rights."

Where a manufacturer, as in the case of defendant Braun & Co., manufactures numerous articles other than those involved in this suit, letters of the character described terrorize his general trade and alienate the good will of his customers in all his various lines of business.

Freeman-Sweet Co. v. Luminous Unit Co.,
253 Fed. 958 (C. C. A. 7th).

We respectfully submit that the portion of the decree appealed from by the defendant should be reversed and the Braun patent held valid and infringed; and that the remainder of the decree should be affirmed and the bill of the plaintiff dismissed with costs to defendant.

Respectfully submitted,

CHAS. E. TOWNSEND,
Attorney and Solicitor for Defendant-Cross Appellant.

WM. A. LOFTUS,
Of Counsel.